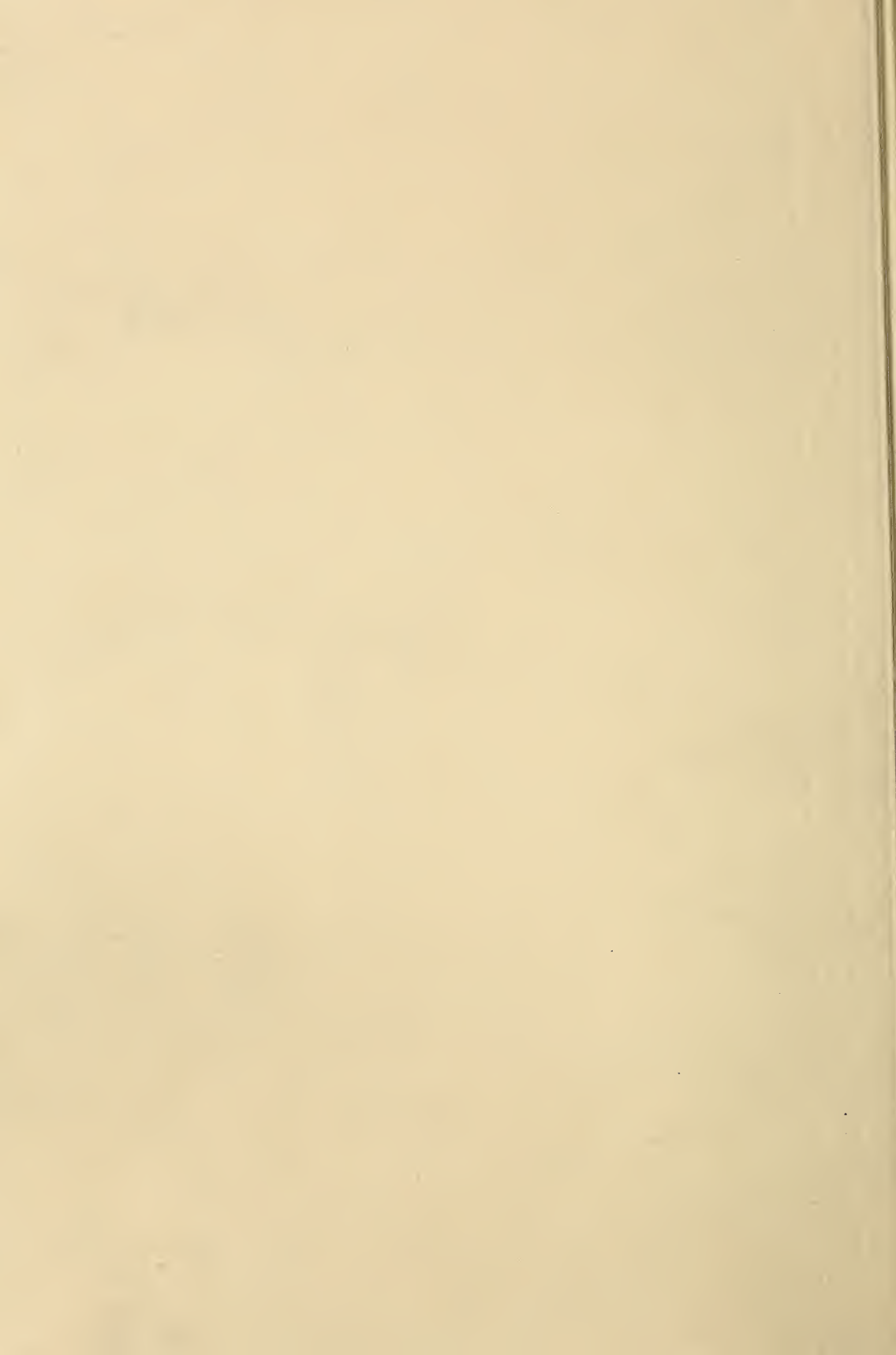
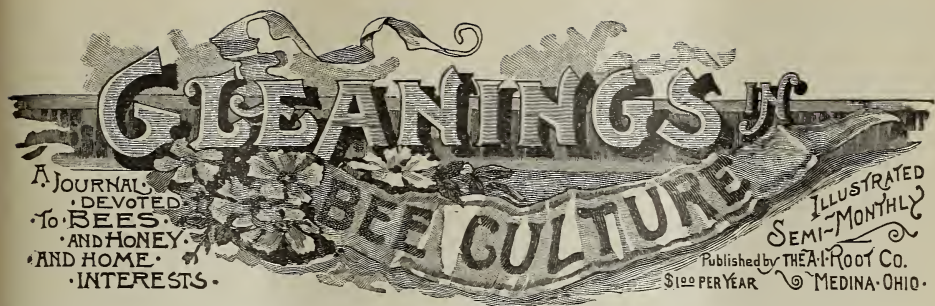


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SEVEN LAYING QUEENS in one colony are reported in *Meheszeti Kozlony*. To a colony with two queens superfluous queens were given till seven were present.

SOMETIMES the beginner is confused about the names of the young bee in its different stages. First the egg for about three days, then the larva for about five days, then the pupa, or chrysalis, until the imago, or perfect insect, emerges from the cell.

A FLY-KILLER that has been doing very efficient service at our house is made as follows: A piece of wire cloth 15×6 inches; two sticks 12 inches by $\frac{3}{4}$ × $\frac{1}{4}$. Nail the two sticks together after putting 3 inches of one end of the wire cloth between them. Other measurements will answer. With such a weapon you can bring down your fly every time by whacking against wall or window, and never a dirt-spot left.

THE STATEMENT has been made that it is the workers that stop brood-rearing in the fall, and not the queen. Pointing that way is the fact that in many cases I have found sealed brood and eggs in a colony, but no unsealed brood. Apparently the queen kept on laying, but the bees wouldn't hatch the eggs. [I have observed the same thing you have, many and many a time; and I believe it is true that the bees are the first to curtail brood-rearing.—ED.]

A SURE METHOD of introduction is thus given in *Le Rucher Belge*: Cage the old queen at least 12 hours, between two combs in the center of the hive. Take her out of the cage, and replace her immediately by the new queen, putting the cage in the same place as before. Twenty-four hours later the acceptance will be certain, especially late in the season. That "especially late in the season" suggests a doubt as to the universal success of the plan.

THE CONTINENTAL bee-journals do not speak in complimentary terms of the apiarian

exhibit at the Paris Exposition, always excepting the display of The A. I. Root Co. They say they were scattered all over, instead of being massed in one grand display in one place. [We have not yet announced it, but we got the gold medal for our exhibit at the Paris exposition.—ED.]

"WHEN TWO QUEENS are contending in deadly hatred, if they get into a position which enables each of them to deliver the mortal thrust of her sting, they recognize the danger and instantly separate, lest by mutual slaughter the hive should be left queenless."—*London Telegraph*.—The *British Bee Journal* says that, while this is true, such contingencies rarely occur. One may be allowed to register a doubt as to such considerateness on the part of two queens fighting mad. The old theory that two queens can never get into such position that both can sting at the same time seems more reasonable.

THE PLAN you give on p. 804 for preparing bee-feed, Mr. Editor, is very simple. I wonder if you wouldn't like to simplify still further by using the plan I have followed for several years. Simply pour the dry sugar in the feeder, then pour in the water. No need of mixing in extractor. [Your plan may be all right, but with us it messes up our feeders too much. We want the feed so prepared that bees can lick the feeders clean without leaving a residue of sugar or crystals; and the only way of accomplishing this is to make the syrup thin, mixing the sugar and water thoroughly by means of an extractor.—ED.]

THE THEORY was strongly urged a few years ago that the safest way to winter bees was with sugar syrup so as to be rid of all pollen. Now comes W. Beyer, in *Centralblatt*, and avers that it is an impossibility to bring a colony through winter and spring without pollen. Without pollen the brood dies, and also many bees. He quotes good authorities in proof. [In late years we have paid no attention to this matter of pollen, and I doubt whether there are any bee-keepers who have wintered bees more successfully than we have here at Medina. I believe bees will winter with and without pollen providing they are properly protected, and the winter is not an extraordinarily severe one.—ED.]

JUST FOR THE SAKE of keeping up a fight with you, Mr. Editor, I'll reply to a footnote, p. 798. You think one would scarcely credit the notion that the covering of a seed would resist acid as well as an egg shell. Put an egg and a honey-locust seed in strong vinegar, and see which will be most affected. Or, put both in boiling water for a minute or two, and see which can produce a growing thing. *Bacilli* and their spores are like a good many other plants and their seeds, the plants much tenderer than the seeds. A good many seeds may be thrown in boiling water for a short time without injury, whereas the plant would not stand it a second.

I'M NOT GOING to Cuba. Various discouragements might be endured, but when it comes to three separate cases of hives absconding, as related on p. 805, that's just a little too much. Bad enough to have a swarm take French leave; but to see a hive up and off is going too far. [Just what we knew you'd say, doctor. You see, Mr. Somerford was speaking of a hive by way of metonymy—putting the vessel for the contents, just as you would say a man is addicted to the "bottle" instead of what is in it. Bee keepers generally speak of colonies of bees either as "hives" or "swarms," even when they do not mean that the bees are swarming. We wish they would always make a discrimination here. We have intended to change the words ourselves, for sometimes the word "swarm" is positively misleading.—STENOG.]

YEARS AGO G. M. Doolittle put me on the plan of caging the queen when a swarm issued, destroying queen-cells five days later, and after five more days destroying them again and releasing the queen. I've always felt thankful for it; and if I had only a single apiary with some one to watch for swarms I might never have given it up. Now Bro. Doolittle depreciates the plan on p. 808, saying it loses 40 to 60 pounds of honey. I can't believe it does here. The bees go right on storing with very little check, filling up the brood-combs, and then when the queen begins laying the honey is all rushed upstairs. [I have tried the Doolittle plan; but in every case it has seemed to me the bees did not do as good work after the queen was caged or removed as before; but one of my neighbors, Mr. U. Prince, has tried the plan, and the last I knew he was still using it, and considered it the best way to manage swarming at outyards. Mr. P. H. Elwood, one of the most extensive bee-keepers in the world, was also practicing it at the time of my last information.—ED.]

MR. WARDELL has found it an advantage to leave cushions on top of the supers or brood-nests all summer, p. 798. Sure. It is a decided advantage to have the hive covered summer and winter with a cushion or some other good non-conductor of heat. It keeps the hive cool in summer and warm in winter. The objection to a cushion is the trouble of an extra piece, the extra expense of a cover to contain it, and the space occupied in winter in cellar. What we need, and what we should have, is a cover with an air-space, making the

cover itself a non conductor. I'm now using dilapidated covers that I can't burn up yet, just because no manufacturer offers a satisfactory hive-cover. I've 50 covers made with air-space and covered with tin, and they're the best I ever had; but I don't like to order odd goods. I've one cover covered with peculiar paper, and painted, and perhaps the paper is as good as tin, but the cover has only one layer of wood, and I defy you to make covers of that kind without some of them twisting so as to let bees through. Both for non-conductivity and for straightness, there must be two layers of wood. [Perhaps you are right, doctor; but if you will tell us how to make a good air space cover that will not twist, and that will please others as well as yourself, we shall be under everlasting obligation to you. Perhaps the style of the 50 covers you refer to is all right; but you know it is expensive, and will bee-keepers pay the expense of the tin?—ED.]



Indian summer now is here,
Loveliest season of the year;
Just a glimpse of smoky haze,
Then the reign of wintry days.

AMERICAN BEE JOURNAL.

The editor, Mr. G. W. York, has been nominated on the Prohibition ticket as recorder of deeds of Cook Co. In view of the fact that in the neighboring city of Cleveland nearly all if not all of the city council are in criminal court for bribery, it seems a pity that such men as Mr. York—men of ability and uncompromising honesty—can not have control of public affairs instead of such men as the slum vote gives us—men who care nothing for office except as a means of plunder. But there's a "Recorder of deeds" overhead who will make this all right some day.

BRITISH BEE JOURNAL.

While the following was not clipped from our London cotemporary, I put it here because it came from that city, and also in hopes we may learn more about it:

There are few people in the heart of London who keep bees, and the Baden-Powells stand absolutely alone in having an apiary in their drawing-room. Surrounded by costly works of art and priceless bric-a-brac, standing on ornamental alabaster pedestals close to the great organ which takes up all one wall of a lofty room overlooking Hyde Park, are two large straw bee-hives, with great glass windows that allow the bees to be seen at work within. The bees do not, of course, fly about the room, but they escape into the outside world through a pipe leading out of a window.

These bees are truly wonderful insects—the very aristocracy of their kind—and they are made to do much work which bees, uncontrolled by such an ingenious mind as that of Colonel Baden-Powell, have never dreamed of. Wooden models of various objects, such as bicycles, for instance, are placed in their hive, and the bees build their honey-comb upon them in the exact shape required. At the present time they are busy building a wax model of the colonel's bomb-proof quarters at Mafeking.

The Basingstoke bee-case is stirring up as big a hornet's nest as the Utter case here. The statement of the matter by the *London Standard* is so laughable as well as instructive that I give it here:

Somewhere in the neighborhood of Basingstoke a wood-dealer occupies a field adjoining the garden of the local postmaster, who keeps bees. Part of it he mows, and part is grazed by an "old mare"—that is to say, he designed to mow it, and he turned out his old mare to graze, but the ferocity of the postmaster's bees ruined either project. When the laborers entered with their scythes the flying squadrons of the enemy assailed them in such force that they hastily withdrew, and the poor mare, unable to withdraw, perished in the field. So the wood-dealer appealed to Basingstoke County Court, claiming damages, first, for his murdered steed; second, for the loss of hay; third, for extra labor, inasmuch as he was obliged to move his rick; fourth, for his personal sufferings. And the Judge decided in his favor for the whole amount, saying that "a person keeps bees at his own risk, and if they do damage he is liable." We suspect that the worthy Judge has not heard the last of this case. Bee-keepers are patient and amiable folk, but like their interesting charges, they can protect themselves.

The English bee-keepers are raising a fund to contest the case.

Mr. W. P. Meadows attended the Paris convention, and has this to say:

I wended my way to the hall, thinking I might be interested in the proceedings; instead of which it was my misfortune to remain seated while several papers—no doubt relating to important bee-matters—were read. I was, however, pleased to meet Messrs Calvert and Dadant, of America, and Mr. Taylor was also there. At the close I was asked to attend a banquet, and friend Calvert was much amused at my answer, which was: "No, can not waste time like that, this morning is sufficient." My knowledge of French being extremely limited, I did not see amid numberless items of interest everywhere around—and very limited time to see them in—that it was worth giving time either to feast or be talked to. Nor was I pleased with the bee-exhibits—indeed, I should have been sorry to face a "Royal" show with all the appliances seen there on my stand—in fact, none of them equaled our own manufacture—a strong statement may be, but if any English bee-keepers saw them they would bear out my remarks.

Quite a tragedy occurred at the recent honey show at Bidston. An eye-witness says:

The judge was the Rev. J. F. Buckler, rector of Bidston, who was just completing his labors, and had scarcely formed a satisfactory judgment upon the single 1-lb. jars, when a severe thunderstorm, which had been raging for over an hour, changed suddenly to a terrific hurricane from the north-west.

All hands tried to save the honey by laying it upon the grass under the staging, but in the midst of the work the tent-poles snapped like twigs, and the tent came down, burying the workers in its folds. As the hurricane continued all the rest of the day, nothing more could be done, except to crawl from underneath the wet canvas. On the morrow what a wreck met the eye! Every tent on the ground, save one, had been leveled. The bee-tent lay as it had fallen. Luckily, most of the honey had escaped much damage, except the second-prize sections. It was useless to attempt any further exhibition, especially as the bees from the examination and lecturer's hives became troublesome. So the honey was packed up as speedily as possible and consigned to its owners. A more disastrous show for every one concerned has never taken place. Thunder, lightning, torrential rain, and howling gales marked all the time the show was open, and we understand there has been a loss to the Society of about £2000 on the show.

BULLETIN DE LA SOMME.

I translate the following suggestions from this French journal, as I believe them to be good: "Mix half a teacupful of honey with

the juice of one lemon. Take from time to time two tablespoonfuls of this mixture, as hot as it can be endured. If the stomach will not retain the honey, take two or three tablespoonfuls of milk."

Here is something further relative to the use of honey: "Honey, by its cleansing properties, being slightly laxative and purgative, prevents constipation, and is very good in cases of inflammation of the stomach, and even of the bladder. There is not, says Dr. Guerin, a more suitable medicine for intestinal fevers, and he adds that honey should be the special food of persons inclined to be feverish.

AUST. BEE BULLETIN.

The editor says the cry about the home market not being tried is getting to be stale. He adds:

Not only have bee-keepers themselves been shipping honey to England, but good business men, with reputations at stake for their honesty and integrity, in Sussex Street, Sydney, or elsewhere, have also been shipping tons away. Let us also bear in mind what is going on in Great Britain. There a lot of comfortable, well-to-do people have dropped on to bee-keeping in the goody-goody style. Royalty has also been called in to further the great cause, and bee-keeping and bee-keepers' associations are springing up all over the country. A spirit of antagonism is fostered also against all foreign honey. Before long honey will be as cheap in England as it is in New South Wales.



GROWING CLOVER.

First Prize Article.

BY WILLIAM ROBINSON.

There have been several articles lately in *GLEANINGS* on alsike clover. I have been familiar with this plant several years, and will give you my experience with it, both as a farmer and bee-keeper. It is the hardiest of all the clovers, thrives on almost any soil, but gives better results in soils containing some clay than in sandy soil. It makes a luxuriant growth in land too wet to grow red clover at all. The roots do not heave out of the ground in spring, as other clovers often do; therefore it has never been known to winter-kill in our locality, while last winter fully ninety per cent of the red clover here was killed. Some fields near me were sown two years ago with red and alsike mixed, half of each; but now very few plants of the red clover are to be found in those fields, while the alsike still flourishes as though it were a native of the soil.

For sowing with timothy it can not be equalled by any other variety. This combination makes as heavy a hay crop as any; but the advantage of the alsike is it is as easily cured as the timothy, and retains its beautiful bright green color in the hay, which is sometimes difficult to get in the red varieties. It remains green and succulent for a long time after the

seed has fully matured, so it does not require harvesting "just at the right time," as is the case with other varieties.

As to its feeding value, I think it superior to any other kind, and my neighbors all agree with me on this point. The stalks, not being coarse and woody, it is eaten absolutely clean by all kinds of stock—no waste.

Some farmers claim it does not make as good an after-growth as the red during dry seasons; but I can see no great difference in this respect. The dairy farmers in some parts of this State prefer to mix the seed in equal portions, claiming the best results in this way.

The seed may be sown on spring grain. This gives best results in our part of the State with all varieties of clover. Good catches are also usually had by sowing on winter rye or wheat in early spring before the frost is all out. We also sometimes sow on old timothy meadows with good results in early spring.

Mixed with timothy, 4 pounds per acre of the alsike is sufficient; alsike alone, 6 to 8 lbs. per acre, or about half the amount usually sown of other kinds. I have four acres, sown two years ago, 6 lbs. to the acre, and the clover now stands a little thicker on the ground than I like it.

Those who will sow red clover should always mix some alsike with it. The alsike, being more hardy, occupies the spaces where the red fails to grow. When we sow with timothy we sow 2 qts. of alsike and 6 of timothy per acre.

This season, up to June 27 we had the worst drouth ever known in this part of the State. Under these unfavorable conditions the alsike made the best and largest hay crop of all our grains. This, it seems to me, would indicate it would do well in warmer climates than ours.

Alsike clover is the best honey-plant we have in Northern Wisconsin. I have never known it to fail to yield nectar abundantly since it was first grown here, about ten years ago. During our severe drouth last June it was the only plant here our bees worked on, white clover being an entire failure with us. My 42 colonies stored 30 lbs. each from the first crop. Since July 1 we have had abundant rains and warm weather, and the bees have been working on the after crop the past ten days, and are still storing honey from the alsike. My plan has been to encourage my neighbors to sow alsike by making a present to each member of the family a nice section of alsike honey, telling them that it was a small portion of the honey my bees gathered from their clover. All bee-keepers should so encourage their neighbors by giving them a taste of honey or by donating at least seed to give it a trial.

Chapman, Wis., Aug. 11.

GROWING CLOVER.

Second Prize Article.

BY WM. W. CASE.

As the growing of clover in itself is one of the most important elements in successful agriculture, so, perhaps, is of like importance

the best method of growing and propagating the same. The ordinary red clover is all right in itself when it takes and grows and does not freeze to death the first winter; but it is uncertain, to say the least. The objections to the mammoth are too well known to be enumerated here. In itself the alsike is much more likely to take, being scarcely affected at all by so-called "clover-sick" soils; and owing to its rooting qualities it is many times less liable to damage from freezing out. It is, however, open to the objection that, as usually cared for, it gives no after-growth or second crop, for the reason that it is not cut until after the seed is produced, it being fully fertilized by the honey-bee, while the red does not produce seed until late in the season, as Dame Nature has to take most of the season to raise the proper number of suitable insects for its pollination, when, like all the clover family, it does not again grow up. This disadvantage may be overcome by cutting when about half done blossoming, but this process ruins the prospect for honey.

The successful method of growing clover as perfected in our county, mainly through my own efforts and perseverance, is as follows:

At the usual time of sowing clover in the spring on wheat and rye, mix red and alsike clover seed in the proportion of 2 lbs. of red to one of alsike, and apply with timothy, 2 lbs., at rate of not less than 6 quarts to the acre, and as much more as experience with your own peculiar soils shows will make a heavy stand. Should the first trial prove a failure, if necessary, furnish the farmers seed at half cost for a second trial, and eventually you will get an alsike convert who would not do without it even if the seed cost \$30 per bushel. In the following hay crop, without interfering with the red crop in the least, it will, on the average, add 40 per cent to the yield of hay, while the second crop of red will follow as though no alsike had been grown. I have frequently seen it grow to a height of 20 to 24 inches the first season after removal of the wheat or rye.

Fully three-fourths of the clover sown throughout this section of country contains its proper share of alsike; and as practically all the red clover froze to death last winter, and scarcely none of the alsike, next spring will see a far higher per cent of alsike sown than in the past.

I have two neighbors, one on either side of me. One said at last haying, "I gained fully half of my hay crop from the alsike;" said the other, "My hay crop was far short of what it would have been had I sown alsike," he thinking he had not time to drive ten miles for the seed. Each said, "All my red clover froze to death."

As a stock feed, alsike clover has no superior, if any equal, in the country. The stem is fine and entirely smooth, and is entirely eaten by stock, while the red is frequently coarse and dusty, and always highly pubescent. As a nitrogen-gatherer it is the equal of any clover grown. As a honey-producer it is the equal of any honey-plant in the northern States; while as a hay crop it is the supe-

rior of any other clover known, here frequently obtaining a height of from 30 to 36 inches, and so thick that a cat has a hard time to make her way through it, and it is practically frost-proof.

It usually takes well when sown with oats, and is sometimes sown as follows with most excellent results: Plow oat stubble as soon as the crop is removed, and harrow lightly once a week from Aug. 20 to Sept. 1, when sow to alsike, red, and timothy, in the proportions given, giving frequently crops of hay the following June as heavy as $2\frac{1}{2}$ to 3 tons per acre. Such sown grass should, however, have applied, at time of seeding, 300 lbs. per acre of the following plant foods: Nitrate of soda, 50 lbs.; tankage, 150; acid phosphate, 700 lbs.; muriate of potash, 100 lbs.

In 1888 The New Jersey State Fair awarded first premium on mixed hay to J. H. Denise, Freehold: yield from 65 acres, 185 tons at one cutting; timothy, alsike, and red clover; aftermath was left on the field.

Baptistown, N. J., Aug. 20.

GROWING CLOVER.

Third Prize Article.

BY HARRY L. SMITH.

Of all the forage-plants which we produce here in the East, there are none that equal the clovers in value. For feeding they furnish a food rich in protein (the most costly part of the ration), and easily digested; as a crop for green manuring they add to the supply of nitrogen in the soil, being able to gather it from the air; and for pasture they can not be excelled as long as we can keep a stand of plants. The common practice in this section has been to use about one-third red clover in seeding to grass; but experiments upon our farm have proved to us that we get more hay, and a much greater feeding value, by using more clover; about one-third red and one-third alsike clovers, the rest timothy and red top.

The first year we get two crops of clover in which but little else will show; but during the following winter, fully half of the clover-plants die, and the timothy and red top take possession and feed upon the decaying roots, giving us a good crop of hay for two or three years. On our heavy clay soils we sow enough alsike to take the place of the red clover, as the latter will rarely make a stand. On moist fertile soil we can produce alsike three feet tall, and it will stool out so thick that it will form a perfect tangle; and how the bees revel in it! It seems as though all the bees in the neighborhood were there. If it is cut when it first begins to bloom we may expect a second crop, but not otherwise, for alsike is a biennial; and if it is not cut before it comes into full bloom the most of the plants will die. If the summer is moist, red clover will produce a second crop even if the first is not cut until the heads begin to turn brown. By seeding with both alsike and red clovers, and not cutting the first crop until it is in the height of bloom,

we get a larger first crop; then the red clover will take possession and give us as large a second crop as though it had been used alone in seeding. Clover likes a mellow soil, so we plan to have it follow some crop which leaves the ground light and friable.

White clover is far the best for use in pastures, as its habit of creeping along the ground and rooting at every joint enables it to form a sod which will stand the tramping and feeding of cattle. In many old pastures it may be introduced by simply sowing the seed on the surface of the ground during a moist season.

East Dixfield, Me.

[When Ernest told me he had offered ten dollars for the best article on growing clover, and that he had limited the writer to so many words, I replied that the subject could hardly be touched in such space. The subject of growing clovers alone would make a good-sized book, and, in fact, we have one such book, but I fear it has not had a very extended sale. Growing clover is almost the foundation of successful farming—if not the world over, at least over a great part of the United States. I am pleased to know that our friend from New Jersey says they get a successful stand of the clovers when the seed is put in during the latter part of August. This agrees with what I have so fully written up about growing clover in the Traverse region, in Michigan. In answer to the query, "Does red clover always contain honey?" it may always contain some; but in some seasons, and at certain times, the amount is so small it can scarcely be discovered. I am glad to note that all three writers take so strong a stand in favor of mixing alsike with the other clovers. Many farmers nowadays grow clover only to enrich the land; in fact, that is *our* custom. We do not cut it at all, and do not pasture it at all. When grown for this purpose alone, is there an equal need of putting in some alsike? and is a mixture of red clover, alsike, and timothy worth more to plow under to enrich the land? Where it is grown for no other purpose, the mammoth is unquestionably worth more than any of the others. This year our ground is seeded to mammoth, and no other, and the growth is certainly stronger and more luxuriant for the time of year than I have ever had with red or alsike.

Clover grown as we grow it, solely for improving the soil, is all right for honey, for we seldom plow it under until it is in full bloom, and some of the heads begin to turn brown. The largest crop of buckwheat we ever grew was where we turned under mammoth clover so late it was already full of seed. A neighbor told us the clover seed on the land was worth more than we would get for our buckwheat; but he was mistaken; and from this experiment I am inclined to think that clover is worth more to plow under when it contains some seed nearly or quite mature than at any other period. An allusion is made in one of the articles to "clover sickness." Some of our best authorities, however, Terry among them, think this is only a notion. They say that, after having grown clover on their

ground all their lives, they find no trouble in growing it still, where it is intelligently managed.—A. I. R.]

QUEEN-CLIPPING.

How to Do it With a Dull or Sharp Knife.

BY S. E. MILLER.

Friend Ernest :—I am a little surprised by a late number of GLEANINGS to see that you and Dr. Miller do not know the correct way to clip a queen's wings, so I suppose I shall have to tell you both, as well as the other readers of GLEANINGS.



I am not sure whether I read this way of clipping in GLEANINGS some years ago, or whether I simply adopted it because it is the surest and most convenient way, and seemed to come most natural. Your way of holding the queen is all right, except that I have an idea you hold her upside down. Try this way the next time you clip a queen :

Hold her by the thorax between thumb and first finger, with her legs or under side toward your face, her head toward the palm of your hand, and her sting pointing out away from your hand. Held in this position she will grapple with her feet for something to get hold of, and will invariably curl her abdomen up so that her sting points about toward your face, thus leaving her wings standing out away from her abdomen. Now place her wings on a smooth hive-cover, close to the corner nearest to you (the edge of a hive-body will do as well). Lay the small sharp blade of a knife across her wings, give a little pressure downward, and it is done.

Every bee-keeper should at all times have about his person a pocket-knife with at least one sharp blade ; but it is not every one who always has a pair of scissors in his pocket of convenient size and shape for queen-clipping. This latter is the main point in favor of my method ; besides, there is not the least danger of ever clipping a leg off, as you deliberately place the edge of the knife-blade across her wings (which are then between the blade and

the hive), before making the clip, and there is no chance of her getting a leg beneath the blade.

Now, you and the doctor try this way and report. I will try to make a rough drawing, which you can probably have an artist improve on and illustrate if you like ; or you might go through the performance and have some one kodak you.

Bluff on, Mo., Aug. 29.

[You saw the plan which you describe, and which is here illustrated, probably in the A B C of Bee Culture ; for in that you will find the exact *modus operandi* given in full. While it is no new plan to Dr. Miller or myself, it is a very good one. But when we talk about the *best* way, then in my opinion the same manner of holding the queen, using scissors, is better.—ED.]

ANOTHER METHOD OF CLIPPING.

I noticed in GLEANINGS several persons telling of different ways to hold queens to clip them. I send you a sample of a little device of my own for holding queens to clip them. Any one can make them by taking a piece of wire, a pair of wire-pliers, and a spike to bend



the fork over. When I use them to catch the queen I just lay the frame with queen in on top of the hive, and slip the fork astraddle of her back. If the fork is too close or too wide,

adjust it to fit. I find it more convenient than catching her by the wing or leg. A. B. C.
Morris X Roads, Pa., Aug. 16.

[I think I should prefer to use my fingers.
—Ed.]

CUBAN BEE-KEEPING.

BY HARRY HOWE

October 3d I landed in Cuba from my trip up home, and began to ask questions of the bee-keepers. There had been very many changes. Some had increased, some had lost,

had plenty of rain, and the vines have made a good growth. My own prospects are not so good. Owing to sickness I could not attend to the bees, and so lost considerable during the summer. This was also partly due to making increase too late in the spring. I did not get my new hives from the States in time to make the increase when it ought to have been done. Now, however, I have plenty of supplies, and am again able to work, and it will not be long before I shall have things moving again.

At present I am "batching" it in a palm house. It is a lonesome way of doing, but I



West. Wright. Stevens. Stuart.

THE FOUL-BROOD INSPECTORS OF NEW YORK STATE.—SEE EDITORIALS.

but all were sure that "next year" they would get that big crop.

Foul brood is spreading. One of my neighbors fed some bad honey by mistake, and went from 250 to 125 in two months. Another went from 100 to 10 in the same time. My nearest neighbor lost 300 out of 700, and so it goes. Another neighbor brought 27 from Florida in April, and now has 75 strong colonies ready for the harvest.

Prospects are good for a crop. We have

hope to have another bee-keeper with me during the winter.

I have a big banana-patch, and shall also have all kinds of garden truck all winter, so it is not so bad as it might seem. Fried ripe bananas are about as nice as one can ask for.

There is a difference in location even here. My outyard is in very much better condition than the home one, yet it was made last June from a lot of the poorest nuclei that I had here, and has had scarcely any attention since.

Bees are swarming some now, but the principal swarming season is in the spring. I hived one this morning at 6:30. The bees are working strongly at sunrise, but stop about ten o'clock. Later on they will not get up so early.

I had a six-weeks' trip up home, but spent three of them in a hospital, and did not even get to see my own apiary at West Groton. However, that did not matter, as no one there got much if any honey.

Artemisa, Cuba.

A NEW MANAGEMENT FOR COMB-HONEY PRODUCTION.

How to Brush Swarms; Do they Work with the same Vigor as Natural Swarms? Swarming Under Control.

BY L. STACHELHAUSEN.

In my article, Dec. 15, 1899, I explained why another management is necessary for comb-honey production. For my management a two-story hive is needed. In spring we manipulate our hives in any of the recommended ways. To get a colony as strong as possible for the honey harvest, the brood-chamber is enlarged at the right time by giving a second or third story. So we get all advantages of large hives, and in 99 cases out of 100 such colonies will not swarm, according to my experience of 15 years.

As soon as the honey-flow commences, and the time arrives when we think it is best to set supers with sections on top of our hives, a hive is prepared with starters only. We bring it to the hive selected for the new manipulation. The old hive is removed from the bottom-board, and set aside to be handy for the following manipulation. The new hive is set on the old stand, and an empty hive-body on top of it. In all these operations I use smoke, and handle the bees somewhat roughly to cause them to fill themselves with honey. One of the brood-combs, with bees and all, is put into the new hive, and then all the bees are brushed from every frame into this hive. The most important thing in this operation is, that the bees fill themselves with honey. A little sprinkling with a solution of sugar in water can be used if the bees do not suck up the open honey.

The combs from which the bees are brushed into the new hive are assorted into different empty bodies near by—brood-combs, honey-combs, or empty ones separately. It is not necessary to look for the queen. She is brushed into the hive with the other bees.

At last we remove the empty body, lay a queen-excluding honey-board on top of the new hive; and a super with sections (containing preferably full sheets of foundation and some bait-combs) is set on top of this, and the hive is closed.

Some time the next day, when the bees have commenced to build combs, the lower story of the brood-chamber is removed; and if the colony has not room enough, another section-super is given. At the same time I remove the

brood-comb, which had no other purpose than to induce the bees to accept the situation with less disturbance. This brood-comb is not absolutely necessary. The colony is now managed exactly as by Hutchinson's method.

What to do with the brood-combs? I have used them so far in forming or strengthening nuclei, and the nuclei plan is the only one by which I have increased my colonies for many years. The first bees coming out of this brood will be field bees about 18 days later; the last one, 39 days later. It depends on the duration of the honey-flow whether these young bees are more useful in the nucleus or in this hive. It is not difficult to utilize them partially or all in the swarm by using Heddon's method of preventing after-swarms. I will not describe how this is done, as every bee-keeper knows it. At any time inside of 21 days we can brush all the bees-in front of the swarm.

I mentioned the queen-excluding honey-board. In my locality it is not necessary to use it. I never had any trouble with brood or pollen in the sections; it is an advantage if we can dispense with this honey-board. A similar way is recommended by Mr. Danzenbaker in his book "Facts about Bees." He is very near to it; the only difference is, he says we have by all means to wait till the colony has commenced queen-cells. This is a mistake. If a strong colony has any drone brood it is in a condition in which it can be swarmed. I recommended the forming of brushed swarms about 15 years ago, in the *American Apiculturist*, and made them on the old stand as well as on a new stand in uncounted numbers, with the result that these swarms always worked with the same vigor as natural swarms, so I know what I say.

For this management I prefer a Heddon hive with 10 frames in a body. Two of them have the same capacity as a Draper barn. It is just as well to use two of Root's 8 supers with 10 frames, but the top-bar of the frames must be made $\frac{7}{8}$ inch instead of $1\frac{1}{2}$ in. wide. These wide top bars work just like a queen-excluding honey-board, and are of more hindrance for expansion of the brood than too small a hive. In these shallow bodies we are not troubled with brace-combs, and this is the only reason for their use. I use the same super, two or more for the brood-chamber; but my frames are fixed in another way, but this is of no importance.

With the 8 frame hive and the Danzenbaker hive two bodies are somewhat too large for the brood-chamber. This is no disadvantage during the spring development. During the honey-flow they would be better if smaller. It will be difficult to get them to build out with natural worker-combs only, and no drone-cells.

If one of the half-stories containing 10 frames with starters is given to this swarm, the bees will fill them with worker-combs; and, according to my experience, these combs do not cost any thing. As soon as necessary, another half-story containing full sheets of foundation is given under the first one, all according to Hutchinson's method.

The advantages are, that we can get colonies for the honey-harvest as strong as possible, with less work, than by any other plan, and can use all the field-bees raised for the honey-harvest concentrated in one hive. When the honey-harvest commences, or at any time we think best, we can get the brood-chamber and the colony in the most desirable condition for the production of comb honey. By this management we do not need to watch for swarms, because we get none. The colonies are as near self-acting as possible; and for these reasons the method is the solution of the problem for out-apiaries. If you ask me for disadvantages, I do not know any.

Converse, Tex.

THE USE OF CARBOLIC ACID DURING SPRAYING TIME.

Shallow vs. Extra-shallow Brood-chambers; Pollen in Sections.

BY JOHN S. CALLBREATH.

Mr. Root.—You said some time ago in GLEANINGS that even when fruit-trees were not sprayed while in bloom, yet many bees were poisoned from sucking up the moisture with the poison in it. In your last number you say that if carbollic acid is mixed with sugar syrup the bees simply won't touch it. Now, why not mix carbollic acid in the Bordeaux mixture, or whatever is used in spraying trees, and prevent any loss from that source? If it would be effective, and wouldn't harm the trees, bee-keepers could use it themselves, and furnish it free for their neighbors to use.

HOW TO USE THE BEST OF THE SWARM QUEENS, AND YET NOT BREED UP A STRAIN OF SWARMERS.

It can be answered in a few words. Each year select a number of hives with pure queens, purely mated, that have made a lot of honey and capped it white, and that have not swarmed. The next year raise an immense lot of drones from these hives, and limit or entirely prevent drone production in all others. In a very few years there will be a noticeable decrease in swarming—at least that is my experience.

A ten-frame Langstroth hive with frames $7\frac{1}{2}$ in. deep—outside measure—top bars $\frac{3}{8}$, and bottom bars $\frac{1}{4}$ in. thick, has almost exactly the same comb surface as an eight-frame Langstroth. Wouldn't two such ten-frame hives, used as a brood chamber, in raising extracted honey, be much better than two eight-frame hives, same capacity, used the same way? Would they furnish too much room? Could additional ten-frame hives—same size of frame—be used to advantage as extracting-supers? or would the shallower extracting-supers be better?

Some years ago I made some shallow hives ($4\frac{1}{2}$), intending to use them singly to have hive swarms in, and then later to use them double. I didn't have any trouble about swarms staying in the one case; but the amount of bee-bread stored in the sections

condemned that plan once for all. Using two cases (16 frames) I have had no trouble from bee-bread in the sections, but they were quite sure to be lacking in stores for winter. Then I tried using three of them for a brood-chamber. Also, I used one set of full-depth frames and a shallow case *under*. In *results* I have noticed no difference in these two ways. They always have enough honey for winter. They seem to winter better than the others; they are much less likely to swarm, while they average just as much in surplus; but they don't commence work in sections as soon as bees in the smaller hives, and a larger percentage of their sections is likely to be still unfinished when the bees begin work on chestnut, which means, of course, that it will be yellowed up. I think if I could be here in the spring—as for years I have been unable to be—I could overcome this objection (slowness to enter sections) by stimulating brood-rearing. If so, then a $1\frac{1}{2}$ -story hive (using the eight-frame Dovetailed hive as a unit) would be better for comb honey than a single story; and if, as I suppose is admitted, a brood-chamber of an extracting-hive should be larger than for a comb-honey hive, then why wouldn't a double-story ten-frame hive (frames $7\frac{1}{2}$ in. deep) be just the thing in running for extracted honey?

Many thanks to Mr. Green for his *driving* and *straining* methods of finding a queen that doesn't want to be found.

Rock Rift, N. Y., Oct. 8.

[I am strongly of the opinion that you have hit on a good idea. There seems to be nothing that is so repulsive to bees in the way of a chemical as carbollic acid. If a very little of it is mixed with spraying-fluids it will keep the bees away from the trees I should suppose, even when they are in bloom. But to be on the safe side I would recommend spraying even then *after* the petals have fallen. If syrup having a little carbollic acid in will go untouched in a hive, I see no reason why the bees would not keep away from the trees under any and all circumstances.

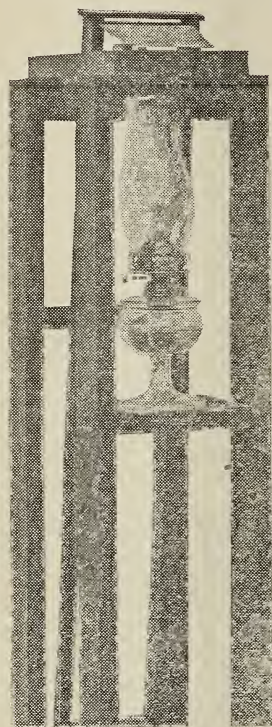
Your scheme of getting a better stock in the apiary is all right; but I am afraid there are but very few honey-producers who give this any intelligent thought or attention.

If a shallow brood-chamber is to be used, one 7 or $7\frac{1}{2}$ inches deep is better than one 4 or 5 inches deep, on account of the pollen going into the sections; but even Dr. Miller, if I remember correctly, says he had some trouble from pollen going into the sections over the seven-inch brood-chamber, while he had no pollen in sections over full-depth Langstroth brood chambers. But this does not seem to be the experience of many others. Under some conditions, and with some bee-keepers, I believe the seven-inch brood-chambers offer advantages over one nine or ten inches; and it may be true that a shallower brood-chamber would be better under all conditions and with all bee-keepers. I do not know. But I do know this: There is quite a following, and an increasing following, that is working toward a seven-inch brood-chamber.—E.D.]

HISTORY OF THE HOT-PLATE FOUNDATION-FASTENER.

BY ARTHUR C. MILLER.

The idea of fastening comb foundation in sections by means of a heated piece of metal was not original with me; and if my memory serves me rightly it was tried and mentioned by several writers prior to 1887. In that year I tried the plan by making the machine illustrated here; but it was an accident, coupled



THE ORIGINAL HOT-PLATE FOUNDATION-FASTENER, AS MADE AND USED BY ARTHUR C. MILLER, PROVIDENCE, R. I.

with my desire to know the "reason why," that led me to the discovery of the principle which makes the hot-plate method successful. This iron plate was rough on the front edge, and pushed the section from its place. I bent the plate so it would not touch the section, and then it failed to work either well or uniformly. Bent down so that it rubbed against the section for a short distance, it worked; bent up, it would not—but why? The secret was in the plate so heating that part of the section against which the melted edge of the foundation came, that the latter had a chance to incorporate itself with the fiber of the wood before the wax chilled.

Providence, R. I., Oct. 17.

[I had always supposed that our friend Arthur C. Miller was the originator of the hot-plate method of fastening foundation in sections, but he modestly disclaims the honor.

It was L. C. Root, author of "Quinby's New Bee-keeping," who, having visited Mr. Miller, gave the idea first to the public some ten years ago; but after having fully tried it I became convinced that the hot plate sliding in a groove would, by reason of wax accumulations, stick in said groove, thus destroying its usefulness. Indeed, it did stick a good many times, and caused us no little trouble; but the work, when done, was so greatly superior to that performed by any other method then in vogue that I became thoroughly satisfied the *principle* was right, and that it needed only a modification to make it practical. I fussed with a good many styles of machines, and finally gave to our Mr. Warner a plan that was later developed into what we now call the Daisy foundation-fastener. By comparing the general plan of this with the original machine shown above (which was first used by Mr. Miller), one will see they are quite similar. It would seem, then, that Mr. Miller's original foundation-fastener was much more perfect than his later improved device. —Ed.]



MARKETING HONEY.

A knock on the door, and upon opening it I find a man from the city of Auburn, who announces his name, takes a chair, and informs me that his principal errand is to talk over the matter of marketing honey. We have an hour's conversation after about this style, as nearly as I can remember:

"I have produced more comb honey this year than our family can consume, and I wish to know how best to market it."

"The marketing of honey is an important question, for a person may succeed in producing a good article of honey, and so put it up and force it upon the market, that it will not bring the producer as much as a third or fourth class article would an apiarist who has an eye to this important item, 'marketing honey.'"

"It doesn't seem possible that such can be the case."

"I know it seems hardly possible; but, as I hinted, a good price for honey depends much upon the state in which it reaches the market."

"Undoubtedly honey would be broken by rough handling; but I can put mine in a wagon, and deliver it in perfect order at our grocer's."

"No doubt *you* could do so, for many will take their honey to market in bulk, piling the sections into a spring wagon in a haphazard way, and, driving to the nearest town or city, offer it to the first grocer they come to."

"Well, is not this the proper thing to do?"

"Hardly; for, as the grocer looks at it, he is quite liable to soliloquize thus: 'This honey is in poor shape for me to sell; and if I put it in attractive shape by crating it, it will

cost me a cent a pound at least; also, this honey shows that the producer does not know the value of his production, or he would have put it up in marketable shape; therefore, if I buy it, it will be at a less figure than I otherwise would pay.' So he offers three or four cents less than he would expect to pay for the same quality of honey nicely crated and offered for sale by a person knowing what such honey was worth in the different markets."

"Upon what do you base such thoughts as these?"

"While passing through the city of Syracuse some years ago I stepped into several places where I saw honey, and inquired the price they paid for it. The grocer informed me, pointing to a lot of perhaps 200 pounds not crated, that he paid 8 cents a pound for that; and then, turning to a lot which was no better, but nicely put up in handsome crates, he said, 'That lot cost me 12 cents a pound;' and upon questioning him I found he was retailing both lots at 16 cents a pound."

"Did you find any other places like this?"

"Yes; and this was about the difference in price which I found generally, although in one or two places it was not more than two cents."

"Well, at that rate I should think it would pay me better to crate mine."

"Yes, it pays largely to crate our product; and if I had but 25 pounds of honey to take to market, I would crate it by all means, not only because it would pay me, but also because it would help to establish a more uniform price for honey throughout the country."

"I conclude that I know very little about this matter of marketing honey, so will venture to ask what I had better do with my honey after I have it nicely crated."

"In answering this question I would say that much depends upon the amount of honey we have and upon our surroundings. If we have few bees, and produce only a small quantity, it will probably be better to sell it in our own city, or the small towns about us, but not till we know what it is worth to us if we send it to some of the large cities."

"How can we tell what it is worth to us in the larger cities?"

"To do this we should take some paper which will give correct market reports on honey of the different grades. Having this we should next figure the expense of freight and commission out, taking the grade ours would come under as the basis for this, when we shall have what our honey is worth delivered at our nearest railroad station; and, by figuring out the cost of hauling, what it is worth at our door."

"Give me an example of how you would figure."

"Very well. For an example, the freight rate from Skaneateles to New York city is 45 cents per 100 pounds. As this is gross weight, we deduct the weight of the crate, by which we find that it costs us about 50 cents for every 100 pounds of honey, or half a cent a pound. Then we have to pay 25 cents per 100 for hauling and loading on car, which makes one-fourth of a cent more. Upon looking up quo-

tations we find that good honey, such as we have, sells at from 14 to 16 cents in that city. Suppose we call it 15 cents. As most commission men charge ten per cent commission for selling, we have $1\frac{1}{2}$ cents more for commission, or $2\frac{1}{4}$ cents as all of the expense of getting our honey from our door to New York and having it sold. Thus you will see that, if we can not get $12\frac{3}{4}$ cents for our honey at our door, we had better send it to New York. And you can figure the same way for Auburn or any other place."

"That seems plain, and I begin to see now how I can know just what my product is worth to me without being entirely governed by what my grocer offers."

"That is right; and if every one having honey to sell would adopt the same line of reasoning, crate it nicely, and then hold on to his product till he could get what it was really worth, we should soon find our smaller towns and cities paying a uniform price, and the country taking a long stride toward making honey as staple an article of merchandise as it can ever become."

"I am really glad I came over to see you, for I now see where I can be more independent than I have formerly been, having the matter of fixing prices quite largely in my own hands. But I must be going if I reach home before it gets dark. Good day."

"Good afternoon."



HYBRID STOCK REVERTING TO BLACK; BREEDING FOR THE YELLOW.

Last spring I had a colony of black bees. They swarmed, and in the natural order of things the new queen became fertilized and commenced laying. Her progeny proved to be a mixture, about two-thirds being pure blacks and one-third pure Italians; that is, they clearly showed the three yellow bands. If this colony should swarm again next spring, and should the queen which will eventually reign be produced from an egg such as brought forth the three-banded bees, will this queen be to all appearances an Italian? Should she mate with a pure Italian drone, will her progeny be pure Italians? To make my meaning more clear, I desire to know whether, if matters should turn out as stated above, my colony would change from pure blacks to pure Italians in two generations, without any outside assistance.

J. F. HENNESSY.

Ballston Spa, N. Y., Oct. 5.

[Hybrid bees have a tendency, if any thing, to revert to the original black rather than to the Italian stock. Why this is so I can not say. The bees from the second queen reared under the conditions named above, while they might be better Italians (that is, more of them three-banded), yet the queen *might* be just as much a hybrid as if she had been reared from

an egg that would have produced a bee black in color. While she herself might be lighter in color, her bees *might* run to the other extreme, or dark hybrids. However, if one were attempting to rear yellow stock he could gradually work toward the yellow in his bees by breeding entirely from the yellow in them; but the probabilities are that two generations would not begin to give entirely yellow stock. The bees of the average hybrid queen range all the way from almost black to entirely yellow bees; that is to say, there will be specimens of what appear to be really black, specimens of one and two banded bees, and also specimens of three-banded; but the last named are not pure Italians by considerable. If it were possible for one of these three-banded bees to be transformed into a queen, her bees might sport all the way from black to three-banded, just the same as those of her mother; but in all probability the yellow would be more predominant in the second lot of bees.—ED.]

WHITE AND RED CLOVERS AS HONEY-PLANTS.

Query: *Does red clover always contain honey?* White clover does not.

In measuring the tongues of bees and the corollas of red clover, what is the approximate difference in length and depth?

Baptisttown, N. J.

W. W. CASE.

[Red clover does not always contain honey, neither does white clover; but the red will yield nectar more frequently than the white. I have never failed to find drops of nectar in the corolla-tubes of red clover during the latter part of summer; but those same tubes will be perfectly dry during the months of September and October, in our locality; and they may also be dry during some seasons in August, but I have never seen the time yet.

The approximate length of the tongues of average bees—that is, the reach—is $\frac{1}{10}$. The greatest length so far measured is $\frac{2}{10}$. Red-clover corolla-tubes vary in length all the way from $\frac{1}{8}$ to $\frac{3}{8}$; and an average of them is about $\frac{1}{4}$ of an inch, or $\frac{2.5}{10}$, deep. The bees of red clover queens have tongues anywhere from $\frac{1.8}{10}$ to $\frac{2.8}{10}$ long; and we are now striving to get a strain that will have $\frac{2.5}{10}$ length.—ED.]

ANOTHER RECORD BREAKING QUEEN WHOSE BEES HAVE LONG TONGUES.

I send you a sample of bees from a colony of mine which has made a remarkable record, with the object of having their tongues measured. This colony has put up 240 lbs. of surplus honey this season in an apiary averaging 85 lbs. During a conversation with J. M. Rankin, at the Chicago convention, I mentioned the record of this colony, and he suggested that I send him a sample of bees. I did so, with the result that, of 10 bees sent, 5 had tongues measuring 6 mm. each, or .236 inches long. If this is correct, and in your measurements you obtain the same results, or nearly so, it is evident that the .25-inch length of tongue necessary for red clover is nearly reached, and in all probability can be attained in a year or two by careful breeding.

While we are on the subject, I should like to know if you could furnish the necessary implements for this kind of measuring; and if so, about what the cost would be. I could get the microscope, and possibly every thing but the rule; and this I am at a loss to know what to inquire for.

The past season has furnished such a remarkable object-lesson of the possibilities of bee culture, that I do not feel as if I could afford to be without some means of accurate measurement another season; and with something definite and decisive to go ahead with, instead of guesswork, it would seem as if progress should be much more rapid than heretofore.

J. H. GERBRACHT.

Spring Grove, Ill., Oct. 22.

[We measured the tongues of the bees you sent; and according to our way of measuring we get $\frac{2}{10}$. But this does not at all signify that Mr. Rankin's measurement was wrong, even if ours was right. Mr. R. measures the total length of the tongue after it has been dissected from the bee. We measure only so much of the tongue as will extend beyond the mouth parts of the bee, or that length which would be available in getting honey out of deep corolla-tubes. Mr. Rankin's method might be defective from the fact that some bees might not be able to protrude their tongues as far as some other bees having shorter tongues. I say *might*, because I do not know. But it occurred to me that the correct way of measuring was to measure only that portion that the bee could stick out from its mouth.—ED.]

DEVELOPING NEW VARIETIES IN CATTLE AND IN CLOVER.

Mr. Root:—I have read Hasty, page 681, in regard to clover, etc. You ask about the breeding of stock. I will say that I have been raising high-grade Durhams, both red and roan, some with sire of one color and then the other; and I had 24 cows, some red, some roan, and some spotted, all with horns. Then I got a red-polled sire, imported from England, a dark-red muley (not a muley Durham or Gallaway). The result was 22 calves—20 smooth muleys, one with horns, one with buttons (small horns three to five inches long, grown to the hide only, and loose from the skull), nearly all a solid red. The next cross was a grade of a red poll with these calves, heifers all muley, and red. The thoroughness of the sire has much to do with his calves—that is, the same type for many generations back, and not letting any sports in this chain of breeding.

Friend Hasty does not say that he kept out these sports by breeding white heads only. Perhaps some white heads were fertilized from red heads. If he had kept the white heads all under a screen, so no other heads could have discharged their pollen on the white, or been carried there by bees or other insects, perhaps his success would have been better. I think his 1897 clover seed is all right for several years yet.

When you spoke of breeding short-headed

clover it was too late to try it this year; but this thought struck me: Inclose a plot of clover so that no insect can have access to it, having a wire screen over it so it can get the rain and sun; then set a hive of bees against this inclosure, having one entrance on the inside and one on the outside, and let the bees work on such heads as they can, and these only would produce seeds. The long heads would have no seeds. Then by using clover from the seeds of this raised inside this inclosure, we could obtain the desired result.

Cuba, Ill.

M. W. MURPHEY.

[If I understand you in your last paragraph your point is this: If a patch of red clover be screened from all insects except bees, only those corolla-tubes the bottoms of which the bees can reach, thus distributing the pollen, will bear seed; that such seed, coming as it does from the short tubes, would develop a short-tubed clover. But after all, we run against this snag. We will say that I have succeeded in developing the short-tubed clover—that I have a fine field of it. Now, my neighbor, who has the old-fashioned kind, might have a field within a quarter of a mile of mine. My bees would visit both fields, and mix the pollen, with the result that next year my seed would grow a clover reverting back somewhat to the original variety like that of my neighbor's.—ED.]

THE BORDEAUX MIXTURE—WILL IT KILL BEES, ETC?

Will the Bordeaux mixture if sprayed on plants or vines that are in blossom, and on which they are working, kill bees? What is the value of dwarf Essex rape as bee-pasture? When does it blossom? Will it stay in the ground during the winter, and grow next year?

The queen I received from you is doing finely; and, if she does all that your advertisement says, she will be a valuable acquisition to my apiary.

J. H. GILFILLAN.

East Brook, Pa., Oct. 1.

[I can not answer from personal experience; but I am inclined to think that the Bordeaux mixture, without Paris green, would not be sufficiently poisonous to do any harm to the bees. Can our experiment stations tell us any thing about it? Dwarf Essex rape does not blossom like ordinary rape; and, to tell the truth, I do not know where the seed is grown or how it is managed to get blossoms and seed. Will some of our readers please enlighten us? In the Southern States, where the winters are not too severe, it will stay in the ground all winter, and would doubtless send up seed-stalks in the spring just as turnips do.—A.I.R.]

BEES, BIRDS, AND GRAPES—MORE ABOUT THEM.

Mr. Root.—I see in your issue for Oct. 1 an article on "Bees, Birds, and Grapes," in which you expressed a doubt as to sparrows picking grapes. I have no doubt on that point. Two or three years ago one of my neighbors said my bees were eating his grapes. I told him

that birds had punctured them first. He then watched closely, and satisfied himself that they had. This season the sparrows commenced to bite my early red variety of grapes, and I spoke to the neighbor about his, and he said they were biting his. This continued for a week or more before I saw any bees around the grapes. The sparrows have destroyed almost all of the Delaware grapes that I had this year. I have nearly a failure in honey this year—not more than 10 or 12 lbs. surplus per colony.

J. R. COLVIN.

Olyphant, Pa., Oct. 8.

[It is possible that sparrows do puncture grapes; but I can easily see how one might be deceived. During the past summer I noticed that the sparrows were very thick around our grapes. In watching to see if they actually did the puncturing, I saw that another bird, the Cape May warbler (*Dendroica tigrina*), was doing that kind of work while the sparrows were after the spiders. Unless I had watched very closely I would have laid the blame on the sparrows. I do not say that sparrows do not pick into grapes; but they are insectivorous in their habits, are fond of spiders, and that is why methinks they are seen around grapes so much.—ED.]

BEES AND PEACHES.

Mr. Root.—In reference to your article on bees and peaches, some twelve years ago I had charge of P. L. Viallon's apiary at Bayou Goula, La. The bees were in the middle of his peach-orchard, and I was led to give particular attention to their damaging the fruit, in consequence of a peach-grower's complaints. Careful and continuous watching for days resulted in finding that the damage in the first instance, in every case, was due to a species of curculio (we had early plums in the same orchard). I saw the curculio puncture, and then after the damage to the skin was done, the bees almost immediately put in their work. I am convinced that this will be found to be the correct solution when green and just-ripe peaches are damaged by bees apparently.

Dalkeith, Fla.

H. FITZ HART.

[You are right. I doubt if there has ever been a well-authenticated instance where bees did puncture sound fruit. In every case where the bees have been blamed we have found, when we were able to follow the case up, that some other insect, or a bird, had broken the skin, and then the bees had followed in just as if they were the original perpetrators of the mischief.—ED.]

A WAX-PRODUCING COLONY.

What amount of wax could a colony of bees be made to produce yearly by removing combs frequently from a suitably made super, and feeding back to the bees whatever honey the combs might contain? and could bee-keeping for the production of wax alone be made profitable?

BEGINNER.

Bandon, Oregon, Sept. 24.

[It is impossible for me to give you even an estimate. If you cut out the combs as fast as

the bees build them after extracting the honey, and then feed the honey back, you might be able to get possibly five pounds of wax. Never having had any experience we could give you only a poor guess.—ED.]

DISGUSTING TERMS.

Mr. Root:—Will you allow me to enter a kind and gentle protest against the practice of using disgusting terms in connection with honey, such as "bug-juice" for honey-dew, and "gob" for beeswax in comb honey, page 797? Let us leave that for other people. They will do enough of it.

Did you ever try just a little honey on baked sweet potatoes? Mix the honey with the mashed potato, and spread a little butter in, and try it. S. T. PETTIT.

Aylmer West, Ont., Can.

[Ever since Prof. Cook protested against the word "bug-juice," some seven or eight years ago, I have made an effort to keep it out of our columns. If it has crept in it was through an oversight. As to the word "gob," that term originated with our unusually esthetic friend W. Z. Hutchinson. I should be willing to accept some other term, but I do not know of any other that conveys the same idea so well.—ED.]

THE PLURALITY OF LAYING WORKERS IN A HIVE.

Dear Sir:—On page 761 Dr. Miller has a "Stray Straw" on laying workers. In July I had a colony of bees become queenless. I noticed that the eggs laid had an unusual appearance, and, not being able to find the queen, I suspected laying workers. In the hive were starters of foundation 8×2 inches, and in one of these were the eggs. With a pin I crushed or removed all the eggs from the comb and replaced it in the hive. In about twenty minutes I examined it and found about half a dozen workers busily depositing eggs. I pinched all I found doing so, and replaced with the same result. In this way any one may assure himself that the majority of the bees become laying workers.

Brentwood, Ont., Oct. 8. M. JOHNSTONE.

BEE'S TONGUES, AND HOW THEY SHOULD BE MEASURED.

Referring to your recent experiments on the measurements of bees' tongues, may I call your attention to one phase of the question which seems to me bears quite as important a relation to the subject as the mere length of the tongue? and this is, the shape of the bee's head. I have put under a powerful magnifier a number of different bees of various strains, and find that there is quite a decided difference in the shape of the heads. Some of them are short and quite round, when looked at full in the face; others are longer and more pointed at the jaw. I think this should be taken into consideration when we are trying to develop a strain which will feed on the red clover.

I call your attention to this now that you may, if you so desire, make examinations this

fall before the season closes. I am at present engaged in making some careful measurements of heads of different strains, but can give you no figures, because I find my implements are not delicate enough, and I am making some others. ARTHUR C. MILLER.

Providence, R. I., Sept. 28.

[If you will refer to the answer to J. H. Gerbricht, in this issue, p. 844, you will see that we have taken this matter into consideration; that is to say, we do not measure the length of the tongue, but the distance that the tongue will stick out from the mouth of the bee.—ED.]



C. A. A., Pa.—It is usually not advisable to take combs of stores out of hives at this time of the year. If the colony is a strong one they will need all they have. If they should have at least 25 or 30 lbs. of sealed stores, which would mean 5 or 6 combs of capped honey or syrup, then you could, perhaps, take away the surplus.

E. W. L., Mass.—We can not explain why your bees are carrying out the white young dead bees. It may be that you have pickled brood or black brood in your hive; or it may be the brood has been chilled or at some time overheated; or it is possible, again, that the bees have at some time gathered some poisonous mixture.

J. H. G., Mich.—If the hive has been queenless for a very great length of time, it is often very hard to introduce a laying queen. We would advise giving them queen cells or a recently hatched virgin. In any case, give them a frame of brood or unsealed larvæ and see whether they build cells. If so, you may rest assured that they are queenless.

P. G. S., Pa.—There would be no difficulty at all about your raising queens under latitude 40, or in the vicinity of Philadelphia. It is difficult, however, to rear queens in August and September anywhere in the United States, and sometimes even experts are foiled in their attempts. Beginners, as a rule, will get better queens during the early summer months when honey is coming in. I would not, as a rule, recommence raising queens in August and September.

J. S., N. Y.—There is no objection to leaving the two extra frames of honey in the brood-nest if you have them; but if the other six combs were well filled with honey, and the bees could be accommodated on the six, I would take out the two combs not needed, even if they were filled with honey, set them aside, and then next spring give them to the colony that might be running short of stores, whether it be the one under consideration or some other one. In any case, when the frame contains brood it should be left in the hive till the brood hatches.



WE have been having beautiful October weather in Northern Ohio, so far without a frost to speak of.

MR. FRANK RAUCHFUSS, of Denver, Col., who has just imported two Caucasian queens from Germany, sends us a mailing-cage containing a few of their bees. They seem to be smaller than the ordinary black, hybrid, or Italian bees with which we are so familiar. They are quick and nery in their movements, and quite distinct in their general appearance from the ordinary black bees.

Now that producers generally over the country have sold out their honey, we are in better position to judge of the honey season. The great bulk of the honey this year was produced in Colorado and Michigan. A considerable amount was produced in Texas and in some parts of Florida. Taking it all in all, I think we are safe in concluding that this has been the poorest year—even more so than last—that we have had for thirty years.

BEE-KEEPERS from various portions of the country are sending in to us almost daily samples of bees which they say are extra honey-gatherers, and the tongues of which they desire us to measure. In nearly every instance we find the reach of tongue is $\frac{100}{100}$, which is much above the average, $\frac{100}{100}$ being the length of reach in ordinary bees. There is no question but there is a very intimate and close connection between long tongues and the big records of honey-gathering.

OF two wintering-repositories, the one that is entirely under ground should have the preference. The one that is described by T. F. Bingham, in our issue for March 1, p. 174, is ideal. The main thing in a bee-cellar is uniformity of temperature during winter. The mercury should not vary much, even when it is very warm outside. If the repository is entirely under ground, instead of being two feet or more out of the ground, as in the case of the ordinary house cellar, the temperature inside will be very much less subject to outside variations. It is usually not practicable to winter indoors in localities where the winter is somewhat open; but indoor wintering will be perfectly practicable if the repository can be so far under ground that the temperature in it will not vary from one month to another more than four or five degrees.

A WRITER in the Heads of Grain department in this issue asks a question which I failed to answer; viz., as to where he can get the necessary implements for measuring bees' tongues. As I have already explained in these columns, we are prepared to furnish

steel rules, graduated 'o hundredths of an inch, that will measure the tongues of bees. The only other articles necessary are a pair of tweezers, a small bottle of chloroform, and a good magnifier. With this outfit one can do his own measuring. The price of steel rules, if they can not be purchased elsewhere, is 35 cts. postpaid.

ONTARIO BEE-KEEPERS' ASSOCIATION.

THE annual convention of the Ontario Bee-keepers' Association of Canada will be held at Niagara Falls on the 4th, 5th, and 6th days of December. I expect to be at this convention with my stereopticon, and on the evening of the 5th I will present many of the views that were given at Chicago at the great National convention. At the close of the stereopticon work there will be a banquet in honor of the presidents and ex-presidents of the Association. I am requested, in behalf of the Association, to extend a very cordial invitation for the bee-keepers of the United States to attend. Next to the great Chicago meeting this will probably be the largest bee convention held this year. All should go who can.

THE PRESENT STATUS OF THE CASE OF UTTER VS. UTTER.

GENERAL MANAGER SECOR is still at work on the case of Utter vs. Utter. The attorneys in the case are Messrs. Baker & Merritt, of Goshen, N. Y., who have been retained to defend the bee-keeper Utter.

In this connection I am pleased to state that the *Rural New-Yorker*, one of the very best, cleanest, and most reliable agricultural papers published in the world, is greatly interested in this case. I have seen a personal letter from the editor of that journal, expressing the hope that bee-keepers would leave no stone unturned in reversing the absurd decision of the justice of the peace before whom the case was originally tried.

I have also been informed that some evidence, very valuable to the bee-keepers, was suppressed by the aforesaid justice. He made much of the testimony of a certain *bee-keeper* who averred that bees could *bore holes through boards*, and would therefore puncture fruit. The fruit-grower, Mr. Utter, testified, as I understand, that bees *stung his trees* and killed them, that they ate up his fruit, etc. Such rank nonsense should be corrected, and I believe it will be by the higher court, where we shall get full justice.

THE GREAT CONVENTION AND THE BRASS BAND.

THE last convention of the National Bee-keepers' Association was probably the greatest in point of attendance and enthusiasm of any meeting ever held in the history of the organization under its different names. The Chicago Bee-keepers' Association, which entertained us so royally, first arranged for a small hall, but finally at the last minute they found it was necessary to secure a hall that would seat comfortably 500 people; and the

wisdom of this change was made apparent the first evening. The Chicago Bee keepers' Association not only entertained us handsomely, but paid all bills, and even furnished a big brass band which came into the convention hall and served us with some delightful music during recess times. The great national convention of bee-keepers—the largest conclave that ever met in the Western Hemisphere, will long be remembered. It is doubtful whether there will be another meeting as large until we meet again in that great hot-bed of bee-keepers—Chicago. The Association ought to consider this its home, and should go home at least once in five years.

MOORE'S BEES WITH LONG TONGUES; 23-HUNDREDTHS LONG.

IN our last issue I spoke of the fact that we had already got bees with tongues $\frac{21}{100}$ long, and that I thought the time was near at hand when we should be able to get a length of $\frac{25}{100}$, or an even $\frac{1}{4}$ inch. Well, what do you think? J. P. Moore, the queen-breeder at Morgan, Ky., sent us some bees which we measured up before we knew any thing about them. Some of the bees showed a reaching length of $\frac{30}{100}$, and one bee showed an actual reach of $\frac{33}{100}$. I was just about to write back to friend Moore, and congratulate him, and make him a bid on the queen that raised those bees, when a letter came from him, stating that the bees sent came from a select tested we sent of our \$200 red-clover mother. I would have tried to buy that queen, but we have about 50 more of that same choice stock.

My notion of the matter is now that we can let the problem of shortening the corollatubes of red-clover alone. We shall be able to reach the desired goal by another route—that is, by stretching the tongues of our bees.

Mr. R. G. Calvert, who measured the tongue of a bee that showed a reach of $\frac{33}{100}$, held that bee up to my eyes and remarked, "What do you think of that for a tongue-reach?"

"Why," said I, "that is the longest I have ever seen;" and it looked as if it were over half the length of the bee itself.

There are hundreds of daughters of this red-clover queen among the queen-breeders and honey-producers of the country; and I would suggest that where they *know* they have this stock they all take particular care of it, and watch its performance next year, especially during red-clover times.

The editor of the *American Bee-keeper* intimates that all this talk about \$200 queens is for advertising purposes. I'll be frank to admit that it *does* look that way; and, further, I don't blame any one for taking that view. But if Editor Hill could see what that queen really is he would be as enthusiastic about her as I. My real intention all along has been to stimulate effort in the production of high-class red-clover stock, and that effort seems to be bearing fruit. A large number of bee-keepers and queen-breeders are competing for the prize I offered of \$25.00 to the owner of the longest-tongued bees, and now the joke

is on us. Friend Moore will win the prize by a queen he *bought of us*. If we can not find another daughter from our own stock that will beat it, and no one else can, Moore will get the prize.

BLACK BROOD UNDER CONTROL, IN NEW YORK; THE GOOD WORK OF THE INSPECTORS; THE IMPORTANCE OF FEEDING BETA-NAPHTHOL SYRUPS.

It will be remembered that the Commissioner of Agriculture of New York took an active interest in the matter of the suppression of black and foul brood throughout that State, as the disease was raging rather severely in some portions of it. Four inspectors, comprising some of the most energetic and prominent bee-keepers, were sent out, clothed with the authority of the State, not only to treat and destroy colonies having black brood, but to instruct the owners how to handle it, show them the importance of thorough disinfection, and the danger of leaving combs, that were diseased, subject to the visitation of bees from healthy stocks. The inspectors have gone at the matter so thoroughly and energetically, having examined from fifteen to twenty thousand colonies, that I am pleased to announce that black brood is being rapidly brought under control; and that, while it was raging quite badly last year in some sections of New York, it has either been wiped out or else corralled to such an extent that it is not threatening the life of the bee-keeping industry as it once was. The inspectors are endeavoring to cover every portion of the State, and especially are they anxious to get knowledge of all localities where diseased brood of any kind exists. Bee-keepers in New York will, therefore, be conferring a great favor on themselves and on the industry as a whole by giving the desired information to the nearest inspector. This will greatly aid in the suppression of black brood, and at the same time protect localities already healthy.

I now take pleasure in introducing to our readers the four bee-inspectors (see page 839, this issue) who have done such good work. The gentleman on the left is Mr. N. D. West, of Middleburgh, of West cell-protector fame. The next one, at his right, is W. D. Wright, of Altamont, who has written more or less for *GLEANINGS*, and is not, therefore, unknown to our readers. The next is Mr. M. Stevens, of Pennellville; and the last is Mr. Charles Stewart, of Sammons ville, both of whom are known to the readers of bee-journals also.

At the time the picture was taken they were assembled at the home of Mr. Stevens, on the 13th of last August, and it is their custom to get together occasionally and compare notes.

In our issue for June 1, p. 445, we published a list of the counties assigned to each man, and it appears they have covered their respective territories in a most thorough and admirable manner. Of course, there are some localities that, from lack of time, and from want of knowledge of the conditions, they have not been able to visit; but if I understand correctly they are authorized to follow

up their work next season; for the Commissioner of Agriculture of New York is determined that the power and authority of the great Empire State shall be used to stamp out brood diseases of all forms.

Taking it all in all, I believe that the New York law, as now amended, is the very best possible one that could have been enacted. One inspector, even if he had unlimited authority, would be almost powerless to cope with the diseases; but now that there are four energetic and progressive men we shall hope that black and foul brood will be narrowed down to very close limits. But it should be understood that, even if those diseases are stamped out temporarily, there are liable to be the germs of either in honey or combs, that may at any time give rise to the disease again. It is, therefore, wise to take precautionary measures.

I would advise all bee-keepers in New York to medicate with beta naphthol all syrups they feed to their bees for winter food, as directed in our last issue. While carbolic acid may be used instead, yet in nine cases out of ten the bees will almost refuse to take the syrup; but they offer no objection whatever to food medicated with beta naphthol. As the latter is much safer in every way to handle, and is quite as destructive to the bacilli of either black or foul brood, it should by all means be used.

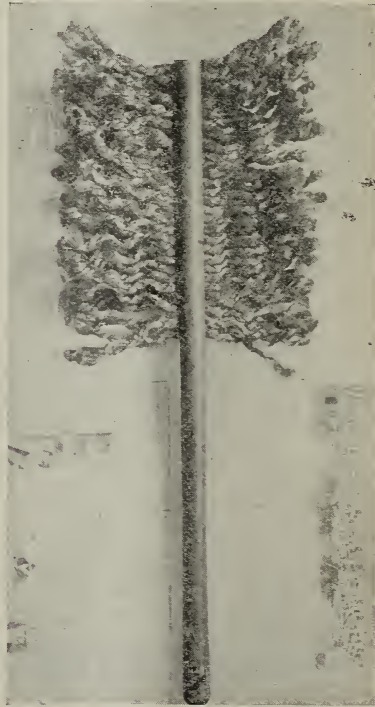
As we are buying large quantities of honey to sell again, we are constantly running the risk of having some lots broken just as they arrive at our station. If some of the honey should perchance come from these diseased localities it might be the means of conveying the infection, through our own robber bees, to our hives. To provide against any thing of this kind, our bees are wintered almost exclusively on beta-naphthol syrup. Two or three dollars' worth of the drug will medicate enough syrup for between 300 and 400 colonies. It costs so little to use it, and requires so little labor to apply it, that it seems to me that in this day and age of the world one would be foolhardy not to use it, especially if he were located in a place where foul brood and black brood are known to exist. Foul brood is certainly spreading in many sections of the United States, and it is wise to take every precaution.

THE PICKARD BEE-BRUSH AND THE PICKARD FAMILY.

THE Pickards, of Richland Center, Wis., were quite in evidence at the great national convention held in Chicago. Mrs. Pickard started bee keeping by buying up a whole apiary, I believe. Her husband cared nothing for bees—did not care to be bothered with them; but he had no objection to the "women-folks" taking up with the new fad if they wished to. But as time went on, it appears the whole family got into the business, and that too quite heavily by running a series of out-apiaries. But the member of the family who is best known to the bee-keeping world is Miss Ada L. Pickard, who has written a number of articles for the *Bee-keepers' Review*

and for some of the other apicultural publications. She and her mother have been unusually successful with bees, taking care of and managing several hundred colonies, while the father, also a bee-keeper (*had to be one, you know*), devotes the greater portion of his time to other business.

Some time ago a subscriber wrote, asking if we had ever seen or tried the Pickard bee-brush. I remembered that such a brush was described and illustrated in the *Bee-keepers' Review*, and on the strong recommendation of our correspondent I wrote to the Pickards for a sample of the brush. One came duly to hand, and is shown herewith in a half-tone that appeared originally in the *Review*.



This brush is by no means a toy affair, but is large and substantial, evidently calculated to clean off the surface of a comb with one sweep. It consists of a handle 15 or 16 inches long, slotted at one end. In this slot, or wide saw-cut, are fastened the strands of an ordinary hemp rope raveled out. These strands are nicely flattened down and evenly distributed. They are then made fast by driving a few nails through the sides or halves. They are next squared off with a pair of shears, when the implement is ready for use. Just how effective this would be in comparison with the Cogshall bee-brush I am not able to say, for I should not consider the use of the brush on only one or two combs a fair test, but I should be glad to hear from our readers who have tried the two brushes. Oh yes! J. M. Jenkins has been selling a brush like this for several years. Whether he got this idea from the Pickards or not, I can not say.



Therefore shall a man leave his father and his mother, and shall cleave unto his wife; and they shall be one flesh.—GEN. 2:24.

Ye are built upon the foundation of the apostles and prophets, Jesus Christ himself being the chief corner stone.—EPH. 2:20.

Thou shalt love thy neighbor as thyself.—LEV. 19:18.

During the past few days I have been having a *series* of "happy surprises;" and as I write there well up in my heart praises to the great Father for those precious and unexpected blessings.

I shall have to go back a little to explain. When Mrs. Root and I started out in life together, something like 40 years ago, we had planned having a few years to ourselves before having a family of children to look after; but, as it often happens, "man proposes, but God disposes," and it was so in our case. For about 20 years they came into our home, stringing along one by one, tokens of God's love, and the greatest and most precious gifts he ever sent into a home, although we *two* did not all at once see it just that way. Thank God, we see it now. Well, for the first time in almost 40 years, a few weeks ago we found ourselves as we were when we first began housekeeping. The three older ones are married, and have homes of their own, and the other two are at Oberlin at school. For the first time in all these years, not one of the five needed a mother's daily care. What a sad thing it is to reflect that Satan sometimes gets into a home at just about this crisis! Why, I have actually known of several divorces because the parents quarreled *after* they had reared a family of children. How such a thing can happen is more than I can tell; for in our home it was quite the reverse. Our children *all* seemed anxious to have us take a good rest and vacation. The boys, all *four* of them (two sons-in-law, you see), volunteered to take charge of all the business, and let us go where we pleased and stay as long as we pleased; but Mrs. Root said she was too old to enjoy traveling—that it was so long since she had been out among people she would much rather stay at home; and, besides, and most important of all, it used her up so she couldn't stand it to travel on the cars, and she couldn't sleep nights anywhere in the world except in her own home.

I have thus gone into details because I have reason to think there are other good women who are making a similar mistake. She said it was all right for *me* to travel, and begged me to go alone. I did so when I took my first trip to "our farm in the woods;" but I begged so hard she reluctantly consented to go with me on the second trip; but when the time came her old "infirmity" (that is what I call it) came back so strong she begged pitiously to be again left at home. Of course, I gave way; for in our home, where *one* does not yield, the other *always* does.

Well, unexpectedly still another low-rate excursion was announced for points in Michigan Oct. 17th; and by much urging and exhortation she and I set forth on the above date, and here my story commences. I especially wanted to "stop over" at several points; but low-rate excursions don't allow it. When we reached Grand Rapids, however, I was told that, by a new arrangement, the train stopped there for the night. This was one of my "happy surprises," for it was where I *wanted* to stop. When the agent told me I could take the afternoon train as well as the morning train I was happier still. Well, Mrs. Root slept all right at the hotel; and in the morning, when we found Eugene Davis' greenhouses were a mile and a half from the end of the street-car line, instead of one-fourth of a mile, as I understood when we started, we walked the whole distance with little fatigue.

While friend D. and I were talking "Grand Rapids lettuce" and greenhouses for growing it, she and Mrs. D. got to be like old friends, as I knew they would. Later on, friend D. took his buggy and we visited the great greenhouses of Chas. Chadwick, where one house, devoted entirely to carnations, covers a solid acre. Other houses are devoted to violets, and so on. And then we had a most enjoyable ride over the beautiful city of Grand Rapids, which now has a population close on to 100,000.

The next day at friend Hilbert's Mrs. Root walked over two miles over the hills, without much fatigue; and the third day she and I together walked over to that "farm in the woods," and our rambles before we got home must have made *six or eight* miles; and she not only slept well at night, but had a good sound refreshing sleep in the woods in the open air.

Now, all these details may seem unimportant to many. I give them because I know there are thousands of women, I might say mothers, who have reared families, who would find health, strength, and happiness from just such an outing.

Dear friends, the above has only paved the way for my Home Talk. Let me go back about 42 years, to the time I was a boy of 18. I was then, as now, fond of exploring things new and wonderful. Mrs. Root and I had just become acquainted. Both of us were attending school, and it was important our entire attention and interest should be given to our studies. As you might expect from what you know of me, I soon began to be more "devoted" to her than to my studies, or to any thing else. Fortunately she showed more good sense than I did, and perhaps more than the average schoolgirl of 17 usually does. She at first attempted to reason, and finally declared I must cease my too frequent visits until we both were older, or until she was through with her studies. Her parents, and, in fact, my parents too, were making great sacrifices to keep us in school, and yet I would give up education, and all else, for that matter, because, to my poor foolish boyish heart, she seemed to be *the very center of the universe*.

Now, there is no very great wrong right here, only that *Christ Jesus*, and he only, should be the center and "chief corner stone" of every human being's affections.

He that loveth father or mother more than me is not worthy of me.—MATT. 10:37.

There can be no abiding love between husband and wife without this. My boyish craze for the girl of my choice was mostly selfishness, although I did not see it so at the time. Mrs. Root, although only 17, stood strong and firm, although it cost her a struggle to do so, especially as I declared I would never come back. But she told me plainly, but kindly, that if I really loved her I would, as time passed, love her all the more for being reasonable. Four years later, when we were both through school, and I had developed a little more good sense, I—we—well, you know if I don't tell it. We commenced life together; but I, at least, had not at that time learned to put Christ Jesus above all and over all. When I was about 30 years of age I gained in judgment and wisdom; but without that "corner stone" I was a good deal like the boy of 18, and it is not so very strange after all that Satan got a chance to whisper in my ear. The older readers of GLEANINGS will remember what I allude to here. We talk about loving our neighbor as ourselves. Dear reader, did it ever occur to you that your own wife, and the mother of your children, is in one sense "your neighbor" as well as the man who lives next door? Well, before you can truly love your wife *unselfishly* you must love God. "Thou shalt love the Lord thy God with all thy heart, and with all thy soul, and with all thy strength, and with all thy mind," and *then* you can love your wife as *yourself*, and as God intended you should love her.

And now, dear reader, we are ready to go back to that "farm in the woods." It was a beautiful Indian-summer October morning, and Mrs. Root and I started out together like a couple of children. We were going out for a day in the woods, "our woods," and I thought of that time long ago when we were boy and girl of 17 and 18. We went a mile and a half through the fields, and then down an old wagon-road through the thick woods. I thought I loved her when I was 18, but, oh what a different feeling it was now! Perhaps a little incident will explain it. When we had crossed the dividing line near the soft-water spring* we bowed our heads, and I thanked God for his great mercies to us during the years he had permitted us to live together. I thanked him for the dear children at home, and for the beautiful spot of ground we stood on and could call our own, and I asked his blessing on it and all we should do to improve it.

Now, many of you will say it was only a notion of mine; but it really seemed as if, from that moment on, a great flood of joy and peace was spread over me like a mantle. God's loving eye seemed over us while we spent the entire day alone in the woods. I kept thinking of Adam and Eve and the gar-

den God gave them; but while they were after a time afraid of the Father's all-seeing eye, I thanked him again and again that we had nothing to hide from him. I named one of the old wagon-roads "Spring Avenue," the one where we came in; the central one, "Clematis Drive," on account of the festoons of wild clematis overhead; and the road that leads out to the bay, "Bay Road."

During the 40 years and more that have passed I have a thousand times enjoyed having Mrs. Root for a comrade and companion during my rambles; but during all that time I do not remember that we two ever had a pleasanter time together; and let me say in closing, to the dear fathers and mothers who have reared families, that, if the joyous days of your courtship and early married life have not followed all along through, is it not because you have failed to put God first and foremost, *above* all and *over* all? Asking his blessing at the morning meal is not enough. Make it more practical by asking him to bless not only the business of the day but every vacation and every outing or trip that you two may take together, and then it will be natural and easy to ask him to keep his loving eye over you when you take that last *great* outing to regions in that unknown world beyond this life.



A SEQUEL TO MY PLUM STORIES—SEE PREVIOUS ISSUE.

The following occurred to me after the above had gone into print. After leaving friend Dobson I started back on a different route in order to avoid those hills 700 feet high, with sand sometimes a foot deep clear to the summit. Friend D. told me I could get a very nice road by taking the first turn to the left, and going straight north; and I did find a very pretty wheel-road for about two miles; then I got into the everlasting hills once more, especially when I left the table lands and began dropping down to the level of Carp Lake. At one point where I inquired my way I was told a foot-path through the fields would save me over a mile, and a foot-path is a very much better track than a wagon-road, in a sandy locality.* Well, this foot-path led me down hill on a pretty steep grade; and before I knew it I was at the back door of a farmhouse on the sidehill. I concluded there must be a good path around the house, and further

*Right here comes in the convenience of a light wheel. With a wheel weighing only 20 lbs. I can throw it over a barbed-wire fence without much trouble, and have it clear the wires; but a wheel that weighs 25 lbs. or more taxes my strength pretty severely. It is often very convenient to make cuts across the country, especially where there is a path, even one made by sheep or cows; and I often have to pick up my wheel and carry it for various reasons. I have found by experience that a wheel weighing 20 lbs. is amply strong for a rider who weighs only 125 to 130 lbs.

* This spring gives 300 barrels a day of water, so soft even Mrs. Root said it seemed exactly like rain water.

on down, so I kept right on without slacking up very much. I got around the house all right, but the path took me down into the garden, and before I knew it I had to dip down my head to get under one of the loveliest plum-trees that was ever seen by mortal man or woman; and there *was* a man and a *woman* on the scene pretty quick. Let me first explain that the plum-tree was one of the native plums found in the Traverse region. It had, however, been under cultivation, and was loaded almost to breaking with the most beautiful fruit that ever tantalized even Adam and Eve. This last observation I do not give on authority—it is only my own personal opinion. The plums were covered with a beautiful bloom, and there was a shading between scarlet, crimson, and rose color that I never saw equaled on any cultivated fruit. I found that, mounted on my wheel, I could not get under the tree without knocking off the fruit; so I got off hurriedly, and had just got one plum in my mouth—you see, I wanted to learn whether they tasted as well as they looked, and I could not wait to go up to the house and get permission.

At this crisis a woman appeared in the shape of a good-sized German lady who could not speak English, and I could not speak German. I guessed from her gesticulations, however, that she wanted to know what I was doing by flying into their garden in that way, and rushing not only toward, but right *into* her plum-tree. I made her understand that I wanted to get down to the station, which could be seen at the bottom of the hill. She made haste to tell me I had got into the wrong path. I gave a hasty and a reluctant look at that plum-tree, and then fearing I might miss the train, and also that I might be arrested for burglary, I slowly followed her to a part of the dooryard where she pointed out the path that led down to the station. I thanked her, and told her I was sorry to make her so much trouble. At this she managed to smile a little and say that it was not any trouble at all, and disappeared. Just then I discovered that that plum was more exquisitely delicious than any other since the time of Adam and Eve. This, again, is my opinion, you know. I wanted to make some excuse for going back and asking for just a few plums from that heavily laden tree. If the good woman could only have spoken English I might have persuaded her that some of them *ought* to be removed. They were weighing too heavily on the branches, and, besides, they were crowding each other. But I feared the train might come in sight at any moment, and so I got on my wheel and plunged down the hill. When I got home I tried to convince friend Hilbert that there was not another such plum-tree on the face of the earth; but I could not get his enthusiasm up to a point where he would promise to go and see it; and every time I have thought of it I have felt badly because I did not get half a dozen or more plums instead of only one when there was such an *awful* lot. When I get up on my new farm I am going to have some grafts from that very tree—see if I don't.

When I reached the station I was disgusted

to find I had more than an hour to wait; so I wheeled over to the steamboat-landing at the head of Carp Lake, and got aboard the boat to rest a little after my tussle with the sand hills; for, to tell the truth, I was dripping wet clear through my heavy winter underwear and outer cotton shirt. When I began to be chilly, the engine room on the boat was just the nicest place in the world to dry me up and keep me from taking cold. Before I reached the station at Bingham I had taken such a fancy to the boat, to the captain, engineer, and fireman, that I telephoned at the landing to my friends, and kept right on. They told me that about dusk we would pass Fountain Point, where there is an artesian well 900 feet deep, that throws a stream from a six-inch pipe 15 or 20 feet high. Sure enough, we caught a glimpse of the white spray of the fountain when we were fully a mile away. Just a little way beyond the fountain, Carp Lake narrows down between two banks so that a wagon-road bridge is thrown across overhead. After getting through this narrow passage we reached Leland, the county-seat of Leelanaw Co., a little after dark. I told the captain I wanted to take a wheelride over to Fountain Point very early in the morning. As there were no guests at the hotel there at that time of year, they were not in the habit of stopping; but he very kindly promised to stop for me.

During the night we had a terrific thunder-storm, with torrents of rain. Notwithstanding, that beautiful sandy soil in the Traverse region dries up so quickly that I had a magnificent wheelride next morning around the border of the lake. In due time I crossed the bridge where our steamer passed under the night before, and reached Fountain Point so I had half an hour to view it before the steamer picked me up. This wonderful artesian well was the result of drilling for oil something like thirty years ago. The water has a slightly sulphurous taste, like most artesian wells from great depths. Of course, it is called a medical spring, and the hotel was built as a sort of sanitarium. It will accommodate 100 guests, so I was told. The stream of water would furnish power for lighting the whole establishment by electricity, and perhaps do cooking besides; but the proprietors have never seen fit to invest in the necessary machinery; therefore the water has been spouting up without interruption for thirty years past, sending a big stream day and night, summer and winter, out into Carp Lake. Where does it come from? Nobody can tell, but I would suggest that it is the rain water that falls on those sandy hills 700 feet high. It probably is caught in some reservoir of impervious clay, and that 900-foot well *happened* to top the reservoir.

The steamer on the little lake is very accommodating, and it was not only a pleasant but a cheap way to travel. The captain ran his boat up to the wharf at Fountain Point for just one passenger, and that passenger paid him only 20 cents for his passage to the wharf at Bingham. Just think of it—a steamboat ride on a beautiful lake, every day if you

wish to go so often, for only 20 cents! The steamer makes daily trips so as to connect with the railway trains.

Perhaps I should explain that Carp Lake, on which the little steamer runs, is about 20 miles long. At its extreme northern point it empties into Lake Michigan; and this is where Leland, the county seat of Leelanaw Co., is located. Now, there are so many springs all around the banks of Carp Lake that there is quite a waterfall pouring over into Lake Michigan; and years ago they found by damming up the outlet they could get a fall of 12 feet. The landlord at the hotel told me there was a water power there equal to 800 horse power, wasting its strength year in and year out. For many years there was a saw-mill there, but now it is gone or going to ruin. At another time there was a blast-furnace utilizing this same water power; but just now the whole thing seem to be waiting for somebody to convert all this energy into electric power to be used for running railways, and lighting Leland and the adjoining towns.



A correspondent sends us a letter and a lot of circulars from the Non-medicine Cure Co., Cleveland, Ohio. The heading reads, "Diseases cured without medicine and without cost;" and then follow some wonderful claims in regard to their institution. Here is a sample:

WE GUARANTEE A CURE IN EVERY CASE.

We have never yet made a failure with these treatments, not one of which but what have stood over 1000 tests, and some have stood over 100,000 tests. We have only 29 cures so far on our list but we are constantly adding more slowly. But we never have, and we never shall add one until we are absolutely positive that it is infallible. Nine years ago we had conquered but one disease. We are proud of our progress, and believe that we are justified in being so.

Among the 29 diseases they cure we find catarrh, grip, colds, malaria, sleeplessness, neuralgia, etc. Under each one we read, "Cure guaranteed in every case. Price \$1.00 for each disease." I sent at once a dollar for the cure of colds; then I added that if they wanted to send the other ones mentioned above I would remit the dollar just as soon as I received benefit from any or all of the instructions for curing the whole six diseases mentioned. I have never been troubled with sleeplessness; but Mrs. Root is, so I called for that on her account. Now, we can not take space to print all of these remedies, even though each one is on a little slip of paper. Instead of getting a good-sized book, on the cure of the grip for my dollar, I simply got the following:

NON-MEDICINE CURE; NO. 5. LA GRIPPE.

Grip seizes upon the weak and upon the strong who have become temporarily weakened by some dissipation. Very late hours will invite a cold; the omission of a single meal, or the abuse of the stomach, by eating improper food and thereby destroying the normal appetite, is nearly always followed by a cold. There are numberless temporary causes for a cold, but above all causes is the lack of vitality. The human body when in vigorous health is proof against any contagious disease. Eat regularly of any proper food, take plenty of outdoor exercise, and avoid any exhaustion or dissipation.

TREATMENT.—When once attacked with grip, recourse should be had to red pepper. This destroys the germ life. A dose consists of a small quantity of pure red pepper equal in size to a pea, floated upon a large spoonful of milk, followed by a drink of milk or water; take this about the middle of the meal, two or three times a day. Massage of the head, neck, and chest should follow. The patient should take a hot-water bath, rinse in lukewarm water, wipe dry, and go to bed. Sleep in the afternoon, and early at night. Red pepper, sleep, and the restoration of vitality, are the essentials of a cure.

No doubt they are correct in saying that the cause of a cold is a *lack of vitality*; and I think they are also right in saying that to cure a cold you must *restore vitality*. I do not know but this would apply to almost any disease. The main point is, *how* can we get back this lost vitality? Sleep is good, I am sure. About the red pepper that masquerades so prominently in all their circulars, I can not feel so sure.

Their cure for catarrh consists principally in drawing a large amount of air into the lungs, and letting it out in different ways, through one nostril and then the other, etc. When a cold begins to loosen up, I know by experience this is an excellent thing; but it would be very hard to convince me that such external manipulation is going to *cure* catarrh. I once heard a great doctor say that many of the remedies in common use amounted to just about as much as it would to keep pouring water on a hot stovepipe to make it cool while you pay no attention whatever to the roaring fire kept constantly burning in the stove. Of course, we *can* cool the pipe by pouring on water enough; but as soon as you stop the water the pipe gets hot again in a twinkling. Well, these wonderful remedies, so far as I have tested them, where they do any good at all, it seems to me, are about on this plan.

The first remedy, that for sleeplessness, is: "Partake of the juice of from one to five dozen oranges per day."

To get clear of malaria we read, "Never use wines or liquors, and especially American beer. Avoid glucose syrups and glucose candy." I do not know but the above remedy might be worth a dollar to some people.

The cure for neuralgia is in taking a great big breath, filling the lungs to their utmost capacity, and then holding it there for a while when walking or taking other exercise. Most of the suggestions are very good. If one were to take the juice of five dozen oranges every day he had better go to Florida and start an orange-grove. Growing the fruit would doubtless help him to sleep nights. Now, granting these remedies are good, and I think some of them are of some value in the way of keeping well, one must have a better foundation than this for restoring lost vitality; and I think the foundation of good health should come about something in this way: If your digestion is impaired by eating too much fruit or other stuff between meals, stop it. If it is impaired by a lack of exercise, get to work at something outdoors or take a vacation. If you are getting toward chronic indigestion, stop eating fruits and every thing sweet. If this does not help you, stop for the time being vegetable food of every sort, and, in short, try the lean-meat diet that has been talked about so much in our pages. Get your digestive apparatus to working nicely, and fur-

nishing good material for your blood, and Nature herself will cure you of almost *every* thing.

DR. DOWIE AND HIS PERSECUTORS.

My opinion has been asked repeatedly in regard to the persecution of Dr. Dowie and his followers at Mansfield, O., and other places. Now, while I think we have had ample evidence that Dowie is not what he claims to be, I would not, under any circumstances, countenance or encourage exhibitions of mob violence such as have been witnessed at Mansfield. Dowie went to Cleveland a short time ago, but people generally let him alone to such an extent that he did not stay very long, and that is the proper thing to do. There is a feature about his work, however, that *should* be taken care of by law, in my opinion. In many instances Dowie and other faith healers have induced people to neglect calling a physician where life might have been saved, without question. As an instance, a woman begged piteously to have her husband send for a physician when she was dying with typhoid fever; but he refused, relying on the faith cure. After her death the man was arrested. In the same way children have been left to die from diseases the average physician would handle safely without difficulty. Of course, if you believe with Dowie that "drugs, doctors, and devils," are all one, you might excuse yourself for not sending for a doctor; but the person who declares there are no honest and conscientious doctors is hardly fit to advise in case of serious sickness.

MORE TROUBLE FOR THE DIVINE HEALERS.

The following was handed me on a slip of newspaper, so I can not give credit:

The Postoffice Department has seized twelve sacks of mail addressed to Francis Truth, at Boston, who had widely advertised himself as a divine healer, but who was recently arrested for fraudulent practices. This mail will be opened by the authorities, and, so far as possible, the money contained therein will be returned to the senders.

It seems from the above that Francis Truth has got out of jail, and opened up business again. Well, I am glad Uncle Samuel is keeping an eye on him; and this reminds me that Weltmer, of Missouri, after he was forbidden to receive mail, opened up almost immediately under another name. The mayor, and all the business men of the little town of Nevada, joined in to help him as before, because he brought so much money into the town. As soon as I was notified of the new institution, I forwarded the facts to the Postoffice Department at Washington, and received their thanks, with a promise to look into it at once. It really seems as if a large part of our people needed Uncle Samuel as guardian to prevent them from sending their hard-earned money to these ravenous wolves who parade themselves in sheep's clothing.

TESTING THE CANTEN LAW.

The Chicago *Advance* tells us that a test case is now before the courts; and the parties

who are behind the arrest are supplied with sufficient cash to carry the case, if need be, to the Supreme Court of the United States. The *Advance* winds up by saying:

The judges of the lower courts, and the learned Justices of the Supreme Court, will have to decide whether plain language means what it was intended to mean, or whether it means exactly the opposite.

The above quotation puts it all in a nutshell—*does plain language mean what it was intended to mean, or does it mean exactly the opposite?* I hope the good people of America will never let up until this one point is settled fairly.

BELLEFONTAINE ONCE MORE FREE FROM SALOONS.

For several years Bellefontaine was held up as being one of the largest if not *the* largest prohibition town in Ohio; but the wets massed their forces, caught the temperance people napping, and brought back the saloons. I think that for two years, or about that length of time, they held the day; but the record of crime and defiance of law got to be so bad that even many of the wets begged to have the saloons ousted once more; and the Anti-saloon League has just helped them to achieve the victory. The following is from the Anti-saloon League attorney:

As you have doubtless seen in the papers, Bellefontaine has reinstated her prohibitory ordinance. I have been with them in the fight. We have won the day there in spite of the combined liquor forces, and I think we shall hold it for years to come. A number of new townships have won victories in the last few weeks.

W. B. WHEELER.

Perhaps I should mention the fact that Bellefontaine is the county-seat of Logan Co., O., and has a population of about 7000.

JUST ONE COUNTY IN OHIO NOT REPRESENTED IN THE STATE PENITENTIARY.

This one county, and it is the *only* one, mind you, is Geauga. Now, here is a significant fact (yes, a *stunning* fact): There are just two counties in Ohio that have no legal saloons—Gauga and Harrison. If I am correct, Gauga has for years kept out the legal saloons, and has also done pretty well in keeping out the *illegal*. While Harrison has no open saloon, it has been infested for some time with quite a number of speakeasies; but recently, with the assistance of the Anti-saloon League, a number of offenders have been tried, convicted, and several thousand dollars turned into the treasury. Our Ohio Penitentiary, as you may know, is almost all the time overcrowded. There are something like 2200 inmates just now, if I am correct, and there are 88 counties in this State; but Gauga has at present *no* representative in the whole two thousand or more from the rest of the State. May God be praised that we have at least one county with such a record; and may other counties take heart and raise the standard. Medina Co. has now only three little towns where saloons are protected. One of them is a mining town, and this is given as an excuse that you "can't keep beer away from miners"

Just now it seems if any one class of people in our country should *not* have beer it is the mining class.



HIGH-PRESSURE FRUIT-GROWING—MORE ABOUT IT.

It now looks as if Medina Co. and the Traverse region of Michigan, and I do not know but the whole wide world, will have to stand aside and take a lower seat, and let Florida stand at the head. The following newspaper clipping comes from the *Palmelto News*, published at Palmetto, Manatee Co., Fla., issue of Oct. 11. The paper was sent by our old friend S. C. Corwin, who explains that the ten trees occupied only an eighth of an acre.

\$940 OFFERED FOR FRUIT ON 10 GRAPEFRUIT-TREES.

Capt. J. A. Howze made the offer to R. F. Willis, who refused to accept it, asking a larger sum.

For the fruit on ten grapefruit-trees Capt. J. A. Howze offered R. F. Willis \$940; but the offer was refused, Mr. Willis holding the fruit for a larger sum.

The grapefruit-trees are on the Willis-Preston grove in the Ellenton hammock, only a short distance from Palmetto, and are beauties worth a trip to see. They are large handsome trees, and are covered with fruit from top to bottom.

You see, friends, the \$940 was not taken. The owner of the little fruit-orchard wants a bigger price, and it will have to be only a little bigger to make it *one thousand dollars* for the crop of fruit hanging on the trees, and the product of a single season. Will some of the Florida friends tell us more about it? How tall are the trees? how wide do the branches spread? what is the diameter of the trunk? how many years have they been growing? I saw a tree while in Florida, and you may remember I wrote it up, belonging to one of our bee-friends, who received \$50 for the crop of fruit that grew on it during a single season. I thought that was wonderful; but the statement above fairly takes away one's breath. An acre of such trees would make a crop worth about \$8000.

SWEET CLOVER—ITS VALUE FOR BRINGING UP POOR GROUND AND UNPRODUCTIVE CLAY.

Right adjoining our premises is a bank of earth thrown out of a railroad cut. This soil came out of the cut from a depth of ten or twelve feet. Some years ago I got permission of the railway company to use it by way of experiment. Of course, nothing would grow on it—that is, nothing but sweet clover, which is already along the railroad. We let it grow up and scatter seed until last spring, when I saw there was a dense growth of thick succulent stalks, about two feet high. When we were plowing under the clover in the field adjoining, I directed our folks to turn under the sweet clover, and said we would try it with Carman potatoes. The potatoes came up rank and strong, to my great surprise, and we have just been digging them, and I was surprised

again to find some of the handsomest, cleanest potatoes on that hard unproductive clay bank that I ever raised anywhere. There was not a particle of scab, no work of wire worms or grubs; and the crop that we got was at the rate of at least 100 bushels per acre. From this experiment I infer that sweet clover is not only worth as much to turn under as any of the common clovers, but I should say even more.

On another piece of railroad ground that had not been covered, consisting of poor clay land like the piece I have just mentioned, we had a plot of Craigs, all clean and free from scab, that went over 300 bushels to the acre. When every thing else blighted, including Carman No. 3, the Craig stood up bright and green; and when every thing else showed scab more or less, unless it was the Russets, the Craig was clean and nice, and the Craig yields almost if not quite double the Russets. For a table potato in the spring, the Craigs are equal to anything we advertise. But to be fair I am obliged to state that in many localities the Craig does not seem to please at all. This is one of the queer things about potatoes. I am planning to test all of our best varieties in the Traverse region next season.

LOOK OUT FOR J. A. BRADLEY, OF AUGRES, MICH.

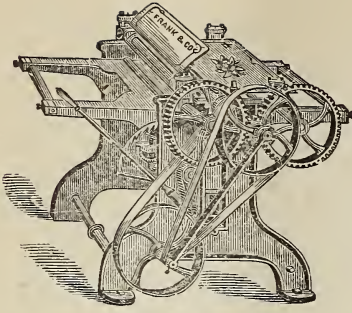
This man has been obtaining queens from different well-known breeders, promising to remit on receipt of same. Mr. W. H. Laws, of Round Rock, Texas, has the credit of having exposed his "little game." By comparing notes it seems that some 12 or 15 queen-breeders have trusted this man Bradley. His plan is either not to reply at all, or claim the queen came dead, or that she was "no good," and therefore that he should not pay any thing. Of course, this could not well happen with queens from so many different breeders. Mr. Bradley has written us his story, and I have told him that, under the circumstances, we should expect him to pay for *every queen ordered*.

Now, this whole matter reveals two things that are not just as they ought to be. First, this man Bradley has discovered that, by writing plausible letters, he can get queens without giving any reference. Perhaps the breeders had a surplus on hand, and were anxious to sell. Secondly, I am afraid our queen-rearers are a little too ready to trust a man without some evidence in regard to his honesty. Very likely he is a poor man; but that, certainly, is no adequate excuse for robbing queen-breeders. If he is worth any thing we shall see what can be done by law with such a case.

CONVENTION NOTICE.

The Colorado State Bee-keepers' Association convention will be held in Denver, Nov. 21, 22, 23, in conjunction with the horticultural meeting. Place of meeting announced later. R. C. AIXIN, Pres., Loveland, Colo.

F. Rauchfuss, Sec.,
Box 878, Denver.



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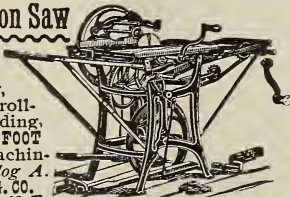


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STILL ON HAND.

One hundred daughters of that famous honey queen mentioned in my last advertisement. Don't delay, for this may be your last opportunity to obtain one of her daughters at these prices: Warranted queens, 75 cts. each; 6, \$4.00; 12, \$7.00. Select warranted, \$1.00 each; 6, \$5.00; 12, \$9.00. Safe arrival and satisfaction guaranteed. Circular free. Queens go by return mail unless otherwise directed.

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